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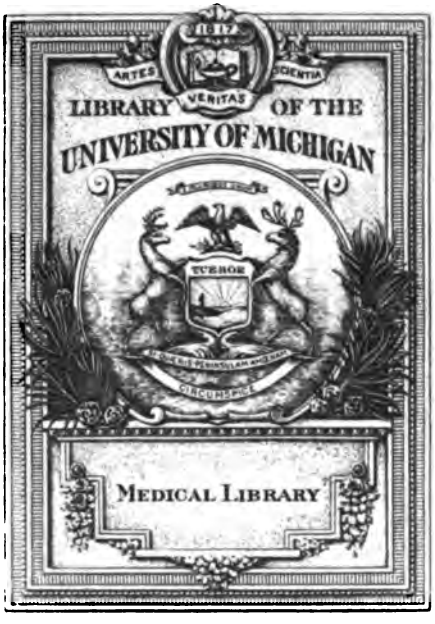
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MEDICAL AND SURGICAL

LECTURES ON THE

5-2

DISEASES OF WOMEN,

A

CLINICAL AND SYSTEMATIC TREATISE.

BY

R. LUDLAM, M. D.,

PROFESSOR OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN IN THE HAHNEMANN MEDICAL COLLEGE AND HOSPITAL, OF CHICAGO; LATE PRESIDENT OF THE AMERICAN INSTITUTE OF HOMŒOPATHY, AND OF THE CHICAGO ACADEMY OF MEDICINE; CORRESPONDING MEMBER OF THE HOMŒOPATHIC MEDICAL SOCIETIES OF GREAT BRITAIN, FRANCE, MASSACHUSETTS, AND NEW YORK; AUTHOR OF A VOLUME OF CLINICAL LECTURES ON DIPHTHERIA; MEMBER OF THE STATE BOARD OF HEALTH OF ILLINOIS, ETC., ETC.

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PREFACE TO THE SIXTH EDITION.

For more than a year past the fifth edition of this work has been out of print. It therefore became incumbent upon the author to revise and to correct it, to withdraw a portion of its old matter and to substitute new paragraphs and new lectures to the end that it might be in every way more complete and satisfactory than before.

In the present edition the briefer articles and the new cuts have been interspersed through the volume wherever they were needed to modernize it and the better to illustrate the text. Many new cases have been added and the clinical character of the work has been preserved throughout.

Of the new lectures that were not included in former editions there are, beside the Introductory Lecture, two upon the Pathology of Ovarian Tumors; one on Explorative Laparotomy and Tapping; one upon Ovariotomy; one on the After Treatment and the Results of Ovariotomy, and one upon the Diseases of the Uterine Appendages, including the Battey-Tait operation. The surgical treatment of Lacerations of the Perineum and of the Uterine Cervix, and also of Uterine Cancer have been reconsidered and treated of in the light of increased hospital and special experience.

The text, which is closely printed and compact, does not discuss those theoretical and historical questions which are better suited for separate monographs, or for an encyclopædia, and which manifestly are out of place at the bedside or in the clinical amphitheatre. All this literary baggage, with which gynecology is being encumbered, is laid aside for what is more direct, important and useful. The result is submitted with a sincere regret that, even in its amended form, the work is not more perfect and complete;

but also with the hope that it may continue to be as useful and as acceptable in the future as it has been in the past.

The thanks of the author are again due to Dr. Belle L. Reynolds, who for the past eight years has been his faithful assistant in the practice of this specialty, for the careful supervision of the work as it passed through the press.

NEW YEARS, CHICAGO, 1888,
1823 Michigan Avenue.

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THE

DISEASES OF WOMEN.

PART FIRST.

GENERAL PATHOLOGY AND PHYSICAL DIAGNOSIS.

*INTRODUCTORY LECTURE.**

It affords me great pleasure, in returning from a foreign vacation, to find that our Annual Course of lectures has been opened promptly and properly; that the Class is already at work; that the Hospital has been repaired and is re-occupied; and that everything connected with an institution in which I have already labored for a quarter of a century is what its best friends could desire. My congratulations are necessarily late, but they are none the less hearty; and I am ready, as I am certain that you are also, for the work that is before us.

The authorities of this school, for whose judgment I have the highest respect, have thought best to limit my sphere of teaching almost entirely to the department of Clinical Gynecology. To this end, as you are aware, they have appointed Professor Bailey as my assistant, and have arranged that henceforth he shall give the largest share of the Theoretical course upon the Diseases of Women. The plan is practical; it has my hearty approval; and you will be the gainers thereby.

I appear before you, therefore, in the simple and single capacity of a clinical teacher, a calling and a position which is second to none in importance, and one in which, if its occupant is competent and conscientious, the greatest possible good may be done. For clinical teaching is the highest type of medical training. It may be, and it often is undertaken by professors and pupils before either party is prepared for it, or before they have obtained a correct and comprehensive idea of what is included in an objective, bed-side course upon practical medicine or surgery.

* Delivered at the opening of the winter session for 1884-5.

Let us consider the object of the Women's Clinic in this college and hospital; for in taking a new start on the old road, there must be no mistake about putting the saddle on the right horse. The purposes of this clinic are so varied and so important that it may be well to study a few of them separately.

I. THE PROPER MODE OF QUESTIONING OUR PATIENTS.—In the outset I must remind you that the class of patients which will be brought before you in my clinic are in certain respects peculiar, and that your success in practicing your profession among women will depend in large measures upon your method of approaching and of questioning them when they are ill. The natural timidity of the sex; the results of the mal-education of our young women; the peculiarity of their nervous organization; the habit of suppressing the signs of suffering, that is so prevalent among women; the hysterical tendency under certain conditions to exaggerate their ailments, or to antagonize and resent your opinions and enquiries; the effects of a monthly martydom from which during middle life they are never wholly free; and the consequences of child-bearing, are so many obstacles to be overcome in the examination. Unless you respect and regard these conditions, your witness will not testify to the facts in the case, and your advice as well as your reputation, will be thrown away.

How, then, shall we elicit the desired information? With such a list of modifying conditions, it is manifest that a stereotyped plan of putting our questions will not answer in all cases. Nor would it be prudent or proper always to begin with enquiring after the uterine or pelvic symptoms. The age, the marriage relation, the number of children, or of abortions or miscarriages, and an outline of the puerperal experience being noted, the way is clear for a direct examination. If by this time you have secured the patient's confidence, and if she is intelligent and clever, and so disposed, you may put a leading question or two and then permit her to tell her own story. Meanwhile you must listen with a calm, judicial temper; for the evidence must fall upon a mind that is capable of sifting it, and of selecting those points which are of real practical interest to the exclusion of everything else, or you will have gained nothing by the examination.

If you will cultivate the temper to which I refer it will keep you from pre-judging the nature of the case in hand, and also from prescribing prematurely. Nothing is more weak and unsatisfactory than the trick of putting questions to an emotional witness in such a way as to make her testify to just what you want to elicit. If I should undertake to prove to you, by questions and answers only, that a hysterical woman has ovaritis, my questions might be so framed as to fashion her sensations for her, and to make her feel in imagination just as she would if she were really ill with it. And so also, if I ask such an one whether she has this or that symptom, or class of symptoms, (which I may carry in my mind

as the picture of a drug proving), her statements may be warped by my question, which is really more of a suggestion than an enquiry. This kind of subornation of medical witnesses is, I am sorry to say, far more common than is generally supposed. It so often constitutes a species of self-deception on the part of the doctor, as well as of the patient, that you will need to guard against it, and more especially in your gynecological practice.

The older writers used to distinguish between the *signs* and the *symptoms* of disease, and it might be well for you to bear this distinction in mind. A sign of disease was something positive and unmistakable, if not absolutely pathognomonic; while a symptom was inconstant, uncertain, common to functional disorders especially, and not always serious or significant. If we except the case of a small share of hysterical, fussy men, the symptoms of disease are relatively much more numerous among women than with the opposite sex; but, although the signs of special disease must vary in them, they are none the less tangible and accessible.

Now these cardinal signs, as I prefer to style them, are what you want. They are to furnish the data without which you cannot make a correct diagnosis, or an intelligent prescription; and so far as it is possible or practical, your questions should be framed accordingly. The closer you keep to this rule the better it will be for all concerned.

Before leaving this part of my subject I must also remind you that such a verbal examination as we have considered is not always sufficient of itself, or altogether satisfactory. My colleague, Prof. Hall, must catechize his surgical patients also, but his examinations do not end with asking them a few questions only. In the case of a displaced womb, or of a pelvic tumor we must supplement our queries with a physical examination that is made with the same care with which he would handle a dislocated joint or a broken leg. There are many diseases of women in which the best questions and answers that could possibly be framed would fail to give an adequate idea of the case, and in which we must have recourse to other and additional means of information before we can be satisfied either as to the nature of the ailment or the choice of a remedy. In my clinics and sub-clinics, it will be my pleasant duty to show you how to use both of these methods of examinations most appropriately and intelligently.

II. The Study of Uterine Pathology and Diagnosis.—No branch of special pathology has had a more eventful history than that which is to engage our attention during the coming winter. Setting out with the idea, which is as old as Hippocrates, that a woman is what she is because of her uterus, her diseases have mostly been ascribed to some special lesion, functional or organic of that organ. This general conclusion was natural enough; but the most mischievous results followed the formation of sects, or parties, among which certain narrow and exclusive views obtained

and dominated for a greater or shorter period. Not to go very far into the past, we have had those who referred nearly all the diseases of women to uterine engorgement (Lisfranc); or to uterine irritation (Gooch); to uterine displacements (Velpeau, Hodge, Grailly Hewitt); to uterine induration and ulceration (Bennet); to chronic metritis (Scanzoni); and, last but not least, to lacerations of the uterine cervix (Emmet). These exclusive views were in turn very prevalent and popular. They are already stratified in the literature of gynecology, each, excepting the last, having had its period of rise, development and decline. Each was right as to the possibility of its being a factor of disease under given conditions, but wrong as to the alleged scope of its influence, or its universal significance with regard to treatment. Each represented a fashion in belief and practice among medical men, which has either been greatly modified or has passed away.

These and other half-truths, such as Tilt's view of the supreme importance of ovarian inflammation, have had their influence upon clinical gynecology, as it is described by different authors and explained by living teachers. Those of you who have been in practice know this very well already; and those who have not are aware that your preceptors are not always in accord with your text-books concerning the ultimate causes of ill-health among women, or the best method of curing their diseases.

If we could invariably find that a warped or a luxated womb was at the bottom of the difficulty, the case would be plain enough, and the cure might not be so very tedious and troublesome. If there was nothing abnormal to search for but an ulceration, or even a laceration of the cervix uteri, the lesion could be easily made out, and the treatment would follow as a matter of course. If we could reduce the whole catalogue of women's ailments to chronic metritis, or ovaritis, or hyperplasia, as Broussais brought all acute, non-sexual disorders to depend upon a form of gastritis, the system of uterine therapeutics would be very much simplified, and a stereotyped, inflexible set of prescriptions would be all-sufficient.

But narrowness is another name for ignorance. Neither of these theories can possibly cover the whole ground of uterine pathology or diagnosis, to say nothing of the treatment. You might as well try to make a drum-head of a rabbit's skin; the thing is not big enough.

In sc important a department of medicine it is a great pity that our knowledge should be corrupted and our influence crippled by such dogmas. If you wish to obtain correct ideas of gynecology, either as a science or as an art, I advise you not to commit yourselves to any exclusive theory of uterine pathology, no matter who first proposed it, whose endorsement it carries, or whether it is old or new.

But how shall you discriminate? How are you to know what dependence to place upon certain classes of signs and symptoms?

And how shall you be able to discard what is worthless, and to keep only that which will be most useful? The only way to do it is through the process of clinical training and observation. If the clinics are what they should be, and if you improve upon these advantages as you should, it will be impossible for you to be unduly biased, for you will learn to balance the claims of the different theories, and to take each at its proper valuation.

Remember, therefore, that my clinics are not designed for your diversion, but for instructive illustration; and that, while they will always be aimed at the relief of suffering and the cure of disease in the case of the patient who is the subject of our study, they will also enforce a lesson in the art of classifying and of identifying the lesion upon which that disorder depends. They will be dry and tedious enough, especially when they keep you from your dinner, but with a basis of reading, and of reflection, and with a degree of patience and of perseverance on your part, their good fruit will surerely ripen in due time.

III. The Clinical Application of the Principles of Hygiene to Gynecology—Without trespassing upon the domain of my colleague, Professor Gilman, a part of our time will be given to a practical application of the ounce-of-prevention doctrine to gynecology. For as the years go by the list of preventable diseases among women grows larger, and it is quite certain that the limit has not yet been reached.

Considering the very important crises through which the young girl must pass, the plainest common sense would dictate that her bodily vigor should be fortified in advance, and maintained by active exercise and exposure in the open air. We cannot imagine a worse preparation for the healthy establishment of the menstrual function; the contingencies of pregnancy, of child-birth, and child-bed; the wear and worry of maternity; and the final change which closes the drama of sexual life, than to imprison her like a nun, and to keep her as tender and as lacking in stamina as a hot-house plant, or a bit of celery.

And yet this is what the busy physician the world over sees practised every day. The higher the social grade of his patients, the more certain is it the rule and not the exception, that the girls of the household find themselves dwarfed and crippled in the outset by customs and habits that are suicidal to the best interests of the community. We cannot compute the harm that is done everywhere, in what are called civilized countries, by repressing the natural energies, and hampering the physical life of young women at the most important period of their existence, just as the very dawn of womanhood is upon them. For it is then that they are most impressible to good or evil influences, physically as well as morally; and then that the seal of good or of ill-health is put upon them.

The boys are turned out of doors, to run and romp and play, as

well as to work; to develop and defend themselves; but the girls are considered quite to delicate and tender for any such treatment. They must be housed and coddled, and kept as much as possible from becoming robust and vigorous, hearty and wholesome, for that would be vulgar and unfashionable. The sun that ripens the peach and tints the rose, that gilds the grass on the meadow and hill-side in the morning dew, must not shine upon them, or it will ruin their complexions, and make them tawny and coarse like their big brothers. Their blood must be thin and watery, or their hands will not be translucent. If the heart was full and bounding, and the head was furnished with the proper materials for building a brain, they might become too masculine or too intellectual, too strong and too independent.

Clinically speaking this proposition will hold good, that, unless the growing girl is inured to muscular exercise and to out of door exposure, she cannot become a healthy woman. And, if it is weak and sickly, the body will clog the mind, so that the indirect result of a lack of physical training will certainly be disastrous. This very defect is often a bar to the more thorough education of women, as well as to the establishment of their health. It is a kind of criminal folly to imprison our girls in schools and seminaries, with poor and insufficient food and fresh air, no liberty and no labor, while their minds are being crammed with husks of history, or flooded with infusions from the dry roots of a dead language.

It is because this folly is not limited to what is called "the better classes," but pervades society throughout, that I shall have occasion to show you during the winter, and you will have need to know, how to recognize and to remedy its effects. For you are not to suppose that the large class of women who are forced to toil, and who are subject to the worries of active life, are thereby exempted from the diseases peculiar to the sex, and from which their more fortunate sisters often suffer unnecessarily. It is the extremes of indolence and overwork, and the lack of balance between the development and the proper exercise of nerve and muscle, mind and body, that works the mischief. And what applies to the brevet woman of the better classes, applies to the girls in all the schools and shops and homes in the land.

Other questions pertaining to female hygiene that will come up for our consideration, as cases present themselves in my clinic, will include the proper aliment for body and mind, bathing and cleanliness, clothing and sleep, ventilation and disinfection, and the suitable quarantine for menstruation, advanced pregnancy, lactation and puerperality.

IV. To Obtain a Correct Idea of the Scope and of the Comparative Value of Uterine Therapeutics and of Uterine Surgery.—There is a tradition that surgery begins where medicine ends; a rule that has long been applied to general practice, to obstetrics and to surgery proper. But the line that separates these

two kinds of resource is so indefinite, and the faith and enthusiasm of those who would depend exclusively upon remedies, on the one hand, and on the other, of those who insist upon the necessity and sufficiency of manual means, are so pronounced as to keep up a more or less constant warfare between them. You will find that, in gynecology also, this is a serious question, for we need to be always on the alert lest we commit ourselves unreservedly, and in a partisan spirit, to the one view or the other. Something of the judicial temper will be required to determine which is most appropriate, if one of them is to be used without the other, or when both are required. For here, as in other mooted matters, the truth may be assumed to be at some uncertain point between the two extremes.

In consideration of the difficulties that lie in your path, I commend you to the clinical test for the proper solution of this very important question. If you believe and promise that your remedies will be all powerful, the facts will not correspond; for, however skillful you may become in their choice and application, our therapeutical methods, especially in gynecology, are still very imperfect. Besides, there must be many remedies of which thus far we know little or nothing; and many conditions of disease also to which we cannot properly affiliate those that we already have and use in our daily practice. Moreover, in certain cases, there is a limit beyond which some operative procedure is necessary, just as there is in obstetrics, and in the diseases of the eye and the ear.

If, however, you endorse and accept the opposite extreme, which just now is so popular, the result will not be different, excepting that, as the tools are bigger and more dangerous, you may do a great deal more harm with them. Nothing in the whole history of medicine has shed more lustre upon the art of healing than the improvement, or rather the development of uterine surgery within the last fifty years. In no single respect has America more just cause for congratulation, in all that she has done for advancing civilization, than for her original contributions to this useful department of surgery. Scores of women have gone out from this very clinic who will bless the memory of McDowell, of Sims, and Atlee, and Peaslee, and Thomas, and Emmet, and Dawson, so long as they live, and their children's children will have occasion to hold these men in everlasting remembrance. For without their help I could not have made the delicate and difficult operations which, under God's blessing, cured those poor women and set them on their way again.

I know how common it is to claim all the credit in such cases for ourselves, and to leave the inference in the minds of those to whom we minister that no one else could have done quite so well. And I also know that not one in a thousand of those who are thus benefited will ever know to whom they are indirectly indebted for whatever they have received at our hands; but the fact remains,

and we can afford to be frank and truthful. I am very fond of gynecological surgery, and proud of its achievements. The longer I live, and the larger my experience, the more I am persuaded that the women of this and of other lands have increased cause for thankfulness, not only for the growing opportunities that are afforded in our day for the development of their talents and worth, but also for the multiplication of means that will improve their health and add materially to their physical welfare and comfort. But I have never plucked out an abdominal tumor, or put a trusting patient in a position where there was nothing but a thin, diaphanous membrane between her and eternity, without wishing that there was a better way, and one that was not so beset by contingencies of the most serious character.

Among women we find that there is quite a crop of surgical cases that lie outside the realm of applied therapeutics, and in which the conditions are curable by plastic operations, and by various kinds of local and mechanical treatment. The proportion between this class of cases and such as are strictly medical must be varied by circumstances, and with the march of improvement in gynecology. My clinic will not give you a correct idea in this regard, for it is largely composed of such knotty cases as have resisted the milder and more usual methods of treatment before coming to us; but it will teach you that we do not put a premium on indiscriminate cutting, or operate merely for the sake of shedding blood, or of creating a sensation; and that the kind of advice given, and the value of it also, will hinge upon the correctness of our diagnosis, and the clearness and decision with which the indications are presented and acted upon. If "the best physician is he who knows when to withhold his remedies," the best gynecologist is he who knows when to sheath his scapel, and when to rely upon constitutional and hygienic means for the cure of his patient.

Between the extremes of theory and practice there is a safe and sensible mean. In gynecology the horizon of applied therapeutics is constantly widening, and new ground is being gained for those who, if they could, would greatly prefer to cure everything with remedies alone. But it is one thing to be captivated and over-confident, and quite another thing to be convinced from actual experience that the law of cure can possibly cover all cases, medical and miscellaneous, indiscriminately, and that gynecological surgery might better be dispensed with. In my own mind, at least, there is no doubt that in the future we shall be able to accomplish more and more with our remedies; but it is quite as probable that a conservative form of surgery will always continue to be necessary in the successful treatment of the diseases of women.

If I can convince you clinically that, whether we prescribe our remedies, or resort to some form of surgical appliance or to operative interference, in the practice of this specialty, the conservative idea is the better one; and can encourage you always to culti-

vate that idea, your gynecological training will amount to something, and your professional advice will be worth having. For this idea combines strength for common objects with separate resources for special ends. Both elements in the combination are salutary, and neither should be allowed to overpower or to supersede the other.

LECTURE I.

GENERAL PATHOLOGY.

THE SEVEN CRITICAL PERIODS IN THE LIFE OF WOMAN.

1. PUBERTY.—Childhood, Girlhood, Womanhood, Clinical history of; Comparative risks of; Not identical with nubility; Early marriage and; Delayed; *Case.* 2. MENSTRUATION—Causes of Suffering in; three steps in; Influence of diathesis upon; do. of travel; do. of the hæmorrhagic tendency. *Case.*—Effect of intercurrent disease upon; do. of the cachexiæ; do. of mal-treatment; the menstrual cachexia.

Before we proceed to study the different diseases of women separately, we must consider some of the principles that pertain to the general subject of gynecology. A knowledge of the general pathology of those diseases will be indispensable in your practice, and, so far as it is possible, that knowledge should be acquired at the beginning of your course. For the lack of familiarity with these underlying principles, the physician is often placed at a disadvantage, and, what is worse than all beside, the improvement and the recovery of his patients are very seriously involved.

Unless you are extremely careful and resolute, there is a double temptation that will divert your minds, and keep you from devoting the necessary time and attention to these preliminary studies. The fact that you are permitted to enter my clinics, and to witness the great variety of cases which are treated before the class, places a peculiar temptation in your way as beginners. For it may induce you to follow the example of the artist who began to paint before he had any knowledge of drawing. Add to this the propensity for prescribing, which is almost universal, and which, unless we are very cautious, is apt to be gratified in inverse ratio with our ability and experience, and the risk that you will lose your taste for the deeper study is very great.

The first elements or principles of this branch of medicine and surgery lie in the very nature of the subject,—I mean in the peculiar physiological and clinical history of the class of patients who will come under our care in the practice of this specialty.

Some one has said that "every man's life contains a novel of at least one volume." Let me tell you that every woman's life includes a clinical history of more than one volume. For, if we study the several crises through which she must pass, is passing, or has passed, we shall find that her health and physical welfare are beset by vicissitudes that are peculiar to herself. Nor is this all. These contingencies are superadded to the risk of the more ordinary ailments to which others are liable. So that, in addition to her sexual disorders, she may have pneumonia, dysentery, typhoid fever, tuberculosis, or almost any other disease, or accident that is mentioned in our works on Clinical Medicine and Surgery.

Apart from all other considerations, therefore, this fact alone should suffice to elicit your sympathy and interest in the study of Gynæcology. The thought that, by close application and study, and by a conscientious improvement of the advantages which it is my duty and privilege to bestow, you can in the future mitigate the sufferings and lighten the burthens that the poor women all around you are bearing, should stimulate you to put forth your best efforts in this direction. For every case that I shall show you in my clinic will have its counterpart in your experience bye-and-bye, and every "wrinkle" that is dropped in my lecture-room will be needed to furnish your stock of expedients for sudden and serious emergencies.

Since "Art is long and life is fleeting," and since we have so much to do, and so little time in which to accomplish our work, we will come at once to the subject before us which is

A CLINICAL STUDY OF THE CRISES IN A WOMAN'S LIFE.

The seven crises.

The grand, distinguishing feature of woman is the fact that her physiological and medical history are included in the *seven* critical periods to which she is subject. These periods are: (1.) *Puberty*, or the first establishment of the catamenia; (2.) *Menstruation*, or the periodical return of the menses; (3.) *Pregnancy*, or the period of reproduction; (4.) *Parturition*, or that of childbirth; (5.) *Puerperality*, or the state of lying-in; (6.) *Lactation*, or the nursing period; and (7.) the *Climacteric*, or the "change of life," as it is commonly called.

It will be impossible for you to arrive at a correct appreciation of the subject before us without a careful study of these crises as essential factors in the diseases of women. No man, and no person is prepared to explain or to treat these peculiar diseases intelligently and skilfully without an adequate idea of the influence which these periods exert upon the health and the welfare of women. For the whole subject of uterine pathology, as it is termed, lies in these cycles and what concerns them.

Necessity for the study of these crises.

I. Of Puberty.—The first epoch in the sexual life of woman is puberty. It consists essentially in the arrival of that period in which the ova are ripened and discharged, with the incidental sufferings and symptoms that belong to the establishment of the menstrual function.

The infancy of the girl does not differ essentially from that of the boy. There is, perhaps, a touch of softness, of delicacy, and of pliability in her organization, that are halfway distinctive; but, in general terms they are identical. Their looks, habits, tastes and predispositions are the same. They grow and thrive upon the same food, in the same school-room, or nursery, and are full of sympathetic relations, but without the passions and propensities of after-life. They are subject to the same diseases, which are curable by the same treatment; and they occupy a like place in the esteem of the family, the friends, and the general community.

Childhood.

But time works notable changes in the young girl. For it gives a more decided tone to the delicate and the almost imperceptible shades of difference between her and her male companion. At a period varying from the tenth to the twelfth year, in this latitude, her individuality begins to assert itself. Her tastes and inclinations are changed, and she becomes shy and taciturn, or forward and capricious. She is timid and reserved, but sensitive, confiding, and tender-hearted. The womanly traits are soon evolved and matured, and she is no longer the non-sexual creature that she was before her emotional and physical natures were so wonderfully developed.

Girlhood.

Henceforth her role is declared, and she must play it with all

the risks that threaten the sex to which she belongs. The sexual life dawns amid contingencies that are more numerous and more serious than you may have supposed. For, although the ovaries were perfectly formed during fœtal life, and were full of ova at the birth of our subject, yet they have lain dormant until the date of puberty. And, although the womb, and the whole generative intestine were present at first as they now are, yet, until now, they never were the seat of any especial functional activity.

Womanhood.

And henceforth her diseases will be peculiar, and very different from those to which she has already been subject. This chapter is one of the most interesting in her whole clinical history, for it involves and includes all the rest. We must comprehend this crisis and its influence throughout the whole of her menstrual life, or very much that follows will be a puzzle and an enigma that we shall certainly fail to solve.

Her clinical history.

There is a common impression that the most serious disorders which date from puberty are referable to a delay in the prompt establishment of the menstrual function. It is held that, if a girl does not begin to menstruate before her sixteenth, eighteenth, or twentieth year, she will almost necessarily suffer in consequence. But I insist, that, practically considered, this is a wrong view of the case. For while the delay, if it is too tardy, is neither natural nor desirable but is sometimes decidedly harmful, still, as a rule, the risk is greater if the flow begins too early as, for example, in the tenth, the eleventh, or the twelfth year.

The comparative risks at puberty.

One reason why a precocious puberty is apt to be followed sooner or later by ill health, is that with parents and with physicians also, puberty and nubility are regarded as synonymous, or identical. The prevalent idea is that, since ovulation implies the possibility of conception, it also signifies the propriety of an entrance into the marriage relation. So that, even although the girl who has menstruated so early does not marry while she is still very young, the chances are that she will be placed in a wrong relation to the opposite sex, while she is a mere child in every other respect, before the generative organs are fully developed, and before her

Puberty and nubility are not the same.

physical maturity has arrived. Acting upon the hint that maternity is possible, she is placed at a most unfortunate disadvantage.

This is the reason why early marriages often turn out badly. The menstruation was premature, and the wedding also; and then the first pregnancy ends in a miscarriage, or in a labor that is tedious and impracticable because of the youth and immaturity of the party who is most concerned. And after this comes a chapter of consequences that are likely to be entailed upon the poor woman for life.

Early marriage.

Another reason why a premature advent of the "flow" may have its mischievous results is that, coming thus early, the young girl may be ignorant of its meaning or import, (as alas! so many thousands of them are), and therefore may neglect herself sadly at this particular period. Knowing nothing of the consequences that may follow, she will be very apt to get her feet wet, to take a cold bath, or to do something to check the flow, and to compromise her health. In my clinic I shall often have occasion to refer you to this as one of the sources of menstrual disorder, and of uterine and ovarian disease in after life.

Ignorance and self-neglect.

If puberty is delayed by reason of constitutional or general causes, the case is serious and will need to be inquired into. There are *four* of these causes, either of which may retard the first appearance of the menses, *viz.*, (*a.*) an impairment of the quality of the blood; (*b.*) depraved nutrition; (*c.*) nervous and mental exhaustion; and (*d.*) the tuberculous or scrofulous diathesis.

Causes of delayed puberty.

If the blood is impoverished, or lacking in the elements that are requisite for the healthy and vigorous performance of the bodily functions in a growing child, it is not to be supposed that it would contribute anything to the establishment of a new and a different function. If the girl is the subject of chlorosis, of anæmia, or of chloro-anæmia, the blood may not be rich enough to stimulate the ripening of the ova, the first menstrual discharge may go by default, and the second and subsequent attempts to put this function into operation may not be any more successful. In this case the general cause is responsible for the result.

Impoverished blood.

Depraved nutrition.

Or, if the nutritive process is badly performed through a lack of proper food, fresh air and exercise, caprice or whim, or any other cause, Nature may decline and absolutely refuse to create a new demand and a new drain upon the resources of the economy until this state of things is remedied. There is no more fertile source of mischief to our young women than the abominable diet that is furnished them in many of our boarding schools and seminaries, at a time of life when they should be well-fed and nourished. For to confine our young girls to a bill of fare that would dishearten and discourage an anchorite, is a reproach to our boasted civilization.

Nervous exhaustion.

In the same general way it may happen that nervous and mental exhaustion shall interrupt the "regular course of things" with the class of subjects under consideration. We all know that this condition is a fertile source of mischief with many of those who have already begun to menstruate. In such cases too great a nervous strain may arrest the flow altogether for months, and sometimes for years. There are several of these cases in my clinic at this moment. So, likewise, when the time for this crisis, which we call puberty, has arrived, if the girl is subjected to excessive mental work or worry, if her brain fags, or her nerves "fly all to pieces," and the strain is kept up, we may reasonably expect that the initial step in this process will not be taken until the conditions are changed.

The different diatheses.

The tuberculous habit often delays the first appearance of the menses, and, indeed, it often deranges this function most seriously at other times also. You should not forget to look especially for pectoral symptoms, a hacking cough, hæmoptysis, night sweats, and a quick pulse, where the menses are tardy in one who is predisposed to phthisis. The scrofulous cachexia, as a rule, is accompanied by delayed menstruation; but girls who have a curvature of the spine are apt to "flow" early and copiously.

An interesting case came to our clinic a few days ago, in which the delay of the catamenial function was due to a bronchocele:

Case.— E. L——, aged fifteen, has never menstruated. She is a bright, active girl, and has been closely confined in one of our city schools. Two years ago both lobes of the thyroid gland began

to develop simultaneously. This swelling has slowly increased in size until the circumference of the neck is fully one-half larger than it ought to be; her general health is good, but her mother says that after active exercise she is subject to slight attacks of palpitation of the heart. There is no protrusion of the eyeballs nor any derangement of vision. She has no signs of anæmia, and there have been no symptoms that indicate the establishment of the menstrual flow in her case. It is not characteristic of her family that menstruation shall begin at a later period than usual; nor have any of her relatives ever had bronchocele. She was directed to take spongia 3, four times daily. (This case improved steadily on spongia.)

From bronchocele.

Certain diseases are cured by puberty. Chlorosis, chorea, incipient phthisis, and some eruptive affections may cease by limitation when the monthly flow is fully established. It is in ignorance of this fact, that cures of these diseases are often ascribed to remedies which have been given just at that particular time. What is equally remarkable is, that the phthisis and the diseases of the skin, which apparently have been cured at puberty, are apt to return at the climacteric.

Among the diseases that follow the initiation of this remarkable function, hysteria is perhaps the most prominent. It is very rarely that a young girl has hysteria before puberty, or during the pre-hysteric age, and it is quite as exceptional if a woman has it after the menopause, or during the post-hysteric period of her life.

In a very large proportion of cases of epilepsy among women, the disease dates from the first menstruation, or from the natural effort to bring on the flow.

If to these peculiar nervous disorders we add the whole list of the diseases of menstruation, of pregnancy, and of each of the other critical periods already spoken of, you will see how important a relation this first step in the direction of womanhood bears to what are properly styled the Diseases of Women. In our search for the beginnings of uterine and ovarian disease, we shall have frequent occasion to refer back to, and to inquire after, the peculiar experiences of the patient at the very dawn of her menstrual life. And we shall often find that something in the character of the pains that she had, or in the weight in the hypogastrium, the headache, the vertigo, the malaise and lassitude, the

palpitations, the disgust of food, or the morbid appetite, the extreme sensitiveness, the spasmodic tendency, or the emotional uproar, will help us to clear up the diagnosis and to individualize the case. No matter if twenty or thirty years have intervened, all the obstacles that were in the way of the prompt, free, natural and almost painless establishment of this function may need to be known before we can proceed intelligently with the cure of our patient.

II. Of Menstruation.—Whether we accept the prevalent theory that menstruation depends upon ovulation or not, the fact remains that the monthly molimen is characterized by states of the pelvic circulation and innervation which are easily disturbed and changed into the inflammatory process.

The menstrual congestion which is a necessary condition of the subsequent flow, is the cause, in a large part, of the intra-pelvic pain and distress that almost always attends the performance of this function. The weight of the womb is increased by its temporary engorgement. Its delicate lining membrane begins to undergo the changes which bring about its detachment and final discharge. This "nidation," as it is technically called by Dr. Aveling, and the moulting that follows is analogous to the growth and separation of the decidua in pregnancy and labor. The exfoliation of the decidua menstrualis, is, in fact, beset by contingencies both before, during, and after the "period." And the clinical symptoms which we have to study in menstrual disorders concern these three special stages of this process.

Causes of suffering.

Three steps in the process.

You will often have occasion to observe that the chief complaint which the woman makes of suffering at the month, dates from two or three days to a week before the beginning of the flow. In other cases, she is in greater pain and distress after the flow has begun, and so long, indeed, as it continues. In a third series of cases, the suffering is almost entirely limited to the time when the proper discharge has ceased, or changed into a leucorrhœal flow. Very exceptionally, as in inter-menstrual dysmenorrhœa, she

The first of these.

The second.

The third.

may suffer most at a time that is half-way between the periods.

A little reflection will satisfy you of the importance of this subject. In order that a woman should be healthy during what is termed her menstrual life, excepting only while she is pregnant, or during lactation, the function of which we are speaking should be regularly and properly performed. Each of the three steps in the process should be taken promptly and they should succeed each other in a natural manner.

Anticipating symptoms.

If the nervous conditions that control the circulation are such as to drive or to divert the blood from the pelvis to the brain or elsewhere just when it is needed within the ovarian and uterine vessels, as a condition of menstruation, the secretion will be arrested or impaired.

If the blood itself is too poor to furnish the necessary stimulus for the ripening and extrusion of the ovule, the whole function of menstruation may, for the time being, at least, go by default.

If the uterus has toppled over backwards and obliterated the canal of the cervix at the internal os-uteri, the menstrual changes that are proper to the cavity of the body of the womb will be very much disturbed, or cut short in their first stage.

If the neck of the womb is narrowed, or partially obliterated from any other cause, the patient will have to pass through a period of suffering which is the counterpart of the first stage of labor, and which, although it recurs every month, is as hard to bear as a veritable childbirth.

Accompanying symptoms.

Or, if we suppose that the flow has begun in a normal manner, the most serious consequences may happen through its interruption. What is called an intermittent form of menstruation, or one in which the flow begins and stops alternately, is always a painful variety of menstrual disorder. There is perhaps no case of inflammation of the entire lining membrane of the womb, in which menstruation is not painful from the beginning to the end of the period. The discharge is sometimes arrested by shock, as from fright, or some form of mental emotion; by falling, or by straining, as in lifting something heavy; by coitus, and by getting the feet wet. And the effects are all the more serious because the mischievous influence has been applied during the flow, when there is a greatly increased susceptibility, with a diminished resistance on the part of the generative organs.

Clinically speaking there is no doubt that menstrual disorders are frequently caused and perpetuated by a lack of care during the period, in some such manner as dyspepsia may be induced by causes that are brought to bear while the stomach is busy with dissolving the food.

Subsequent symptoms.

And so likewise with the third act in this wonderful physiological process, which, to a healthy middle-aged woman, is "as inevitable as one's shadow." The rapid degeneration of the uterine mucous membrane, the carrying away of the effete debris, and the final "parturition of the ovule," as Tyler Smith so aptly termed it, are steps that are decidedly critical. For, if a decidua is removed at every period; if this removal is accompanied by more or less peristaltic action of the uterine muscular fibre; and if it is followed by hæmorrhage, the case is one of labor in miniature, which, like the period of puerperality, has its own clinical significance.

Practical deduction.

These considerations with regard to the general pathology of menstrual disorders, have their counterpart in the proper treatment of those disorders, whether it be medical or surgical. This, indeed, is the key to what might be styled menstrual therapeutics, and in your practical lives as physicians, whether you become specialists or not, you will have occasion to use it very often.

Influence of diathesis, etc.

There is another class of facts which you will need to remember in this connection. The conditions that influence and modify the course, progress and termination of diseases that are not catamenial, impress themselves upon this class of affections also. There are personal and family idiosyncrasies that may so change the clinical history of amenorrhœa, dysmenorrhœa, and menorrhagia as almost to destroy their identity. When either of these disorders occurs in a woman who is subject to scrofula, to rheumatism, to chlorosis, to syphilis, or to any serious affection of the skin, its special pathology, and its special therapeutics will be modified accordingly.

Influence of travel.

Nor should you forget what I feel like insisting upon very strongly, that the diseases of which we are speaking are quite as decidedly influenced by external circumstances, and especially by changes of latitude, as are

asthma, tuberculosis, or intermittent fever. This fact needs to be borne in mind, because, in these days of rapid transit, and of cheap transportation, when everybody travels, sufficient attention is not always paid to the climatic vicissitudes of journeying from one end of our country to the other.

Influence of the hæmorrhagic tendency.

Some of you remember a very marked illustration of the modifying influence of the hæmorrhagic diathesis upon menstruation that we have had in our clinic. I will recall the principal facts to your mind:

Case.— For some years, four of the members of one family have been coming to our out-clinic. The eldest of the three daughters consulted us for a pronounced anæmia with periodical hæmoptysis, and a delay in the establishment of the monthly flow. The second one had epistaxis at puberty, which was evidently vicarious of menstruation, and when the uterine flow was finally established it was very irregular. The third menstruated once only at fourteen, but not again for several months, and was sickly and complaining meanwhile. And the mother, who was passing through the climacteric, not having ceased to flow at forty-nine years of age, was suffering from incipient hemiplegia.

Influence of intercurrent disease.

Intercurrent diseases of an acute or sub-acute type have much to do with modifying and complicating the clinical history of menstruation. During their existence, as for example, while a menstruating woman has typhoid fever or pneumonia, her periods are very likely to be interrupted. Sometimes she will have a suspension of this function, or a kind of temporary amenorrhœa that is limited by the duration of the fever, or of the inflammation, whatever it may be. At other times, more especially if her general condition is adynamic, or if she is addicted to hæmorrhage, the flow may be too frequent and too copious. In either event the crisis of the intercurrent disease from which her recovery dates, is often the point of departure for menstrual difficulties that she never had before. For this reason the management of acute diseases occurring in women demands especial care.

The same rule has an indirect application also. Where convalescence from acute disease has not been thoroughly established, and the patient has drifted into a cachectic condition that may continue indefinitely, disorders of menstruation are very likely to

ensue. The confirmed state of cancer, whether it be uterine or not, of phthisis pulmonalis, of chronic dyspepsia, and hepatic disorders, of pelvi-peritonitis, and of pelvic cellulitis, are almost invariably complicated with one or more of these affections.

Influence of the various cachexiæ.

If your observation accords with mine, you will learn that a considerable share of the menstrual difficulties which you will be called upon to cure are the sequelæ of an excess of local treatment, in the way of cauterization, dilatation, or incision of the cervix uteri, and the wearing of ill-assorted, ill-adjusted pessaries, that may have caused an untold amount of suffering, and had the effect to upset the menstrual function altogether. It will be my duty to teach you how to apply these resources in such a way as to make them of real service to your patients, and how to avoid the harmful consequences that are so often entailed upon women by their careless and indiscriminate employment.

Influence of mal-treatment.

In conclusion I must remind you that chronic disorders of the function of which we have been speaking, whatever their cause or complication, may develop a menstrual cachexia, which is sometimes as incurable as that of chronic aortitis, or carcinoma. This fact which has been verified by clinical experience under all the known methods of treatment, will have the effect to make us chary of promising to cure these disorders indiscriminately and invariably.

The menstrual cachexia.

LECTURE II.

GENERAL PATHOLOGY—CONTINUED.

3. PREGNANCY.—The physiology of; the diseases that are *caused* by; relation of, to uterine displacements: do. to cervicitis; the common diseases of pregnancy; changes of the blood in; do. of the heart in; rheumatism in; do. nervous affections; do. metro-cerebral disorders; do. pulmonary, digestive, and urinary derangements. The diseases that are *cured* by pregnancy; the *vis medicatrix* of. Diseases that *co-exist with* pregnancy; ovarian and fibroid tumors, etc.

III. PREGNANCY.—The period of pregnancy, which begins with conception and ends with labor, is characterized by a great variety of physical changes, which, although they are natural and self-limited, as a rule, do often modify the subsequent health of women. This is why, in the case of those who have borne children, whether prematurely or at term, pregnancy may be considered as a critical predisponent of disease.

The physiology of pregnancy.

If the uterine tissues were not developed in an extraordinary degree; if ovulation and menstruation were not suspended; if the circulation and innervation of the pelvic and abdominal viscera were not greatly augmented; if the heart and the liver were unchanged in structure and not overburdened with an increase of duty; if the demands upon the nutritive and nervous systems were not in excess of the usual needs of the economy; and if the moral and physical natures were not disturbed in so remarkable a manner during pregnancy, you may depend upon it that a large share of the diseases that are entailed upon women would have no existence.

In a liberal, but not in a literal sense, all the diseases that are peculiar to women, excepting only those that belong to menstruation, must be directly or indirectly related to pregnancy. The contingencies of childbirth, of the puerperal state, and of lactation, therefore may be said to date from the beginning of gestation.

I think it will be profitable to consider this subject under the three general heads of (1) the diseases that are *caused* by, (2) those that are *cured* by, and (3) those which may *co-exist with* pregnancy.

1. *Of the Diseases that are Caused by Pregnancy.*—In this connection I shall not speak at length of what are commonly called the diseases of pregnancy, as for example, morning sickness, caprices of the appetite, incidental disorders of digestion and of the circulation; but of the more chronic and permanent affections to which women are predisposed by reason of their having been pregnant, and from which they suffer after the period of gestation has terminated.

Uterine displacements.

Perhaps the different varieties of uterine displacement should head this list. If we remember that the changes which take place in the uterus prior to the fourth month are almost exclusively confined to the fundus and body of the organ, we shall be able to explain the comparative frequency of flexions and versions of the womb that follow upon early abortion. The greater relative frequency of prolapsus as a sequel to miscarriage in the later months must be ascribed to the development of its lower segment at that period of pregnancy.

Irregular development of the gravid uterus.

Depaul and others have noted the fact that the growth of the uterus during pregnancy is not uniform upon its different sides or surfaces any more than at its two extremities. Nothing is more probable than that these one-sided conditions often continue after delivery, more especially if that delivery was accidental or premature. When the risks of defective involution which attend upon all cases of miscarriage are added to such conditions, the source of very many cases of uterine deviation is almost positively known.

Twisting of the womb.

So, likewise, the torsion or twisting of the uterus, which occurs in the last months of pregnancy, and which usually turns it toward the right side, may give it a lateral inclination that it will keep for a long time after the child is born. This result is facilitated by the relaxation of the round ligament on the opposite side, which gives the organs a kind of squint or divergent strabismus. You have observed this obliquity in our puerperal wards when we have been studying the changes that occur in the womb during the first ten days of the lying-in; and I shall often have occasion to illustrate this kind of deviation arising from the same cause, in my general clinic.

Naturally enough, the statics of gestation, as well as the extraordinary development of the intra-pelvic tissues, the migration of

the womb from the pelvis to the abdomen, and the stretching of all the uterine ligaments are so many factors in causing and complicating the displacements of the organ, that come either in the early months of pregnancy, or that follow its close.

Effect upon the uterine ligaments.

There is another group of affections from which many, if not, indeed, most women would be exempt if they never became pregnant. I allude to the different forms of inflammation and ulceration of the uterine cervix. Those of you who have been engaged in the study of obstetrics know what is understood by the *ramollissement* or softening of the cervix, its change of form and structure, and its final obliteration at term. These processes, which are physiological and natural in themselves, bring about such a modification in the nutrition of the parts as renders them much more liable to disease than they would otherwise have been. Clinically considered, the virgin cervix is very different from the cervix of one who has reached the sixth month of pregnancy or who has gone her full time. And there are also important differences between the cervix in the first and in subsequent pregnancies; or, technically speaking, between the cervix of the nulliparous and the multiparous uterus.

Cervical inflammation and ulceration.

In the treatment of corporeal cervicitis, and of endo-cervicitis, as well as of cervical induration and ulceration, I consider it very important to remember that either and all of these lesions may have their root in the evolution and the involution of the neck of the womb, during and after pregnancy.

Effects of a by-gone pregnancy upon the cervix.

We have good authority for the statement that epithelial cancer of the neck of the womb never occurs except with those who have borne children.

The modifications that are proper to the uterine mucous membrane during gestation are peculiarly delicate, and of the greatest possible interest to the gynæcologist. These modifications include a great and growing increase of its surface, and of its vascularity; the formation, separation and final moulting of the decidua; the organization and detachment of the placenta; the development of a new membrane to take the place of the old one; and the

Changes in the endometrium.

retrogressive changes that pertain to the involution of the uterus after it has been emptied of its contents.

Effects of.

If these changes are interrupted or interfered with, the risks of inflammation are sometimes very great, and the consequences may last for years in the form of ordinary chronic metritis, exfoliative metritis, menorrhagia, or an intractable uterine leucorrhœa.

What we have said of cervical lesions as contingent upon pregnancy is equally true of the common form of metritis that occurs in general practice. For, if her womb has not been developed by a contained embryo, or something like it, as, for example, in case of uterine polypi, or fibromata, it seldom happens that a woman has chronic metritis, unless, indeed, it be the result of some mischievous local treatment or appliance.

Effect of peritoneal changes.

It would not be reasonable to suppose that the peritoneum, which is the outer envelope of the uterus, should fail to participate in the changes of structure, and in the morbid risks that, without exception, are proper to all of its tissues during the period of utero-gestation.

You know that this delicate serous membrane, after covering the posterior surface of the bladder, is reflected upon the anterior wall of the uterus, so that it invests about three-fourths of this organ in front; that it passes over the fundus and descends upon the posterior face of the womb until it lines the Douglas cul-de-sac, whence it re-ascends upon the rectum. You also know that the broad ligaments are formed of duplicatures of this same membrane, and that the utero-sacral and the utero-vesical moorings of the womb are made of the same material, with a few muscular fibres interspersed. This is the genital peritoneum.

Origin of metro-peritonitis.

Rouget is authority for the fact that there is a very intimate union between the muscular parietes of the womb and its investing peritoneum, and that during pregnancy, this union continues, so that the peritoneum does really participate in the hypertrophy and other textural changes that are proper to this period. Add to this, that when the uterus passes from the pelvis to the abdomen, where it may have space for its development, the ligaments are put upon the stretch, and sometimes seriously injured. These circumstances predispose many women to pelvi-peritonitis, which disease is

much more troublesome and common than you may have supposed. If my own experience in private practice, and as a clinical teacher, may be taken as a criterion of the facts in the case, I should say, that while pelvic cellulitis may, and does sometimes occur in those who have never conceived, pelvi-peritonitis, like the cauliflower excrescence, does not. It is true, however, that in a considerable proportion of cases, these two diseases are not altogether distinct.

Origin of pelvic peritonitis.

In consequence of pregnancy, the liability to inflammation of the pelvic cellular tissue is very much increased. You will find a confirmation of this fact in our lying-in wards and in the history of many cases in my clinic on Wednesdays. It often happens that, because relapses of cellulitis in the non-puerperal state are so directly related to the menstrual return, the real origin of the disease, as a sequel of pregnancy, is overlooked. *En passant*, it may be as important to treat these cases with especial reference to their beginnings during gestation, no matter how remote it may have been, as it sometimes is to treat prolapsus uteri with reference to a defective involution of the womb during the early puerperal period.

Origin of pelvic cellulitis.

The etiological results of the changes in the muscular tissue of the uterus during gestation will be considered when we come to speak of the post-partum involution of that organ.

Changes in the vascular tunic.

Having thus considered the modifications that are proper to the generative organs during pregnancy, the effects of which do not wholly disappear in after life, we must study the results of this condition upon the other organs and functions of the general economy. In this regard the diseases of pregnancy, as they are commonly termed, are significant, not only during the period of utero-gestation, but afterward, and because of their sequelæ.

The common diseases of pregnancy.

To facilitate this study I have arranged a table upon the blackboard. It is imperfect, but it will give you a list of the more prominent disorders to which women are liable during pregnancy. The groups of diseases naturally involve the more prominent organs and functions, and are more or less serious, according to circumstances.

TABLE OF THE DISEASES OF PREGNANCY.

The Circulatory System.	The Nervous System.	The Digestive System.
1. *Of the Blood:* *a* Plethora. *b* Anæmia. *c* Chlorosis. *d* Uræmia. *e* Hydræmia. *f* Chlorsemia.	1. *Of the Mind:* *a* Irritability, timidity. *b* Melancholia, vertigo. *c* Capricious inclinations. *d* Often entire change of temperament.	1. *Of the Mouth.* *a* Stomatitis. *b* Toothache. *c* Ptyalism.
2. *Of the Circulatory Organs:* *a* The heart. *b* Palpitation and syncope. *c* Hypertrophy, etc. *d* Veins; varicoses.	2. *Of the Sensory Nerves:* *a* Pain: headache. *b* Neuralgia. *c* Over-sensitiveness. *d* Insensibility.	2. *Of the Stomach:* *a* Morning sickness and anorexia. *b* Nausea and vomiting. *c* Pyrosis. *d* Cardialgia. *e* Hæmatemesis. *f* Capricious appetite. *g* Catarrh of the stomach.
3. *Of the General Circulation.* *a* Œdema. *b* Hæmorrhoids. *c* Hæmorrhages. *d* Varicoses.	3. *Of the Motor Nerves:* *a* Spasms; convulsions. *b* Eclampsia. *c* Epilepsy; chorea, etc. *d* Paralytic conditions.	3. *Of the Bowels:* *a* Constipation. *b* Diarrhœa. *c* Dysentery.
		4. *Of the Liver:* *a* Torpidity of, etc. *b* Hypertrophy of. *c* Acute atrophy of.

If we take the circulatory system, we find that the altered character of the blood, which in a considerable proportion of cases is contingent upon pregnancy, continues through puerperality and lactation, so as to impair the health of the mother more or less permanently. This is a class of causes which is very obscure, and therefore likely to be overlooked.

Changes in the blood during pregnancy

Concerning the heart itself, there is no question that its structural changes during pregnancy are often as pronounced in their way as are those which occur in the uterus. The most decided of these changes consists in a hypertrophy of the left ventricle, the walls of which may become increased from one-fourth to one-third of their thickness. Their texture is more firm and their color more bright, while the auricles

Changes in the heart.

and the right ventricle retain their normal thickness. If the right ventricle is also hypertrophied, it will give rise to pulmonary congestion and hæmoptysis.

If the hypertrophy of the left ventricle results from the natural impediment to the uterine circulation during pregnancy, it must be regarded as conservative, or compensatory, the same as if it had been caused by valvular lesions; and if the hyper-nutrition of its parietes, like that of the uterine tissues, is confined to the period of gestation, and passes off with it, the cause being withdrawn the lesion may disappear. But if anything interferes with a return of the normal conditions of the general circulation, the hypertrophy will not be removed.

In this manner a single pregnancy may develop an acquired predisposition to cardiac diseases which subsequent pregnancies, more especially if they occur in rapid succession, will be very likely to confirm. Indeed, it sometimes appears that this predisposition is ultimately changed into an exciting cause, as when it induces epistaxis, hæmoptysis, metrorrhagia, or apoplexy.

Changes as a predisponent of cardiac disease.

When this ventricular lesion exists in women who have suffered from the rheumatism that is sometimes caused by pregnancy, we may look for valvular complications which are in the way of a perfect recovery. For in this case the compensating hypertrophy will not always cease by limitation, but may continue for months or years after the child is born.

Effects of the rheumatism of pregnancy.

In the same manner and for similar reasons, the indirect consequences of an embarrassed circulation during pregnancy which appear in dropsical, hæmorrhoidal, and varicose conditions, are frequently entailed upon women. And there is no doubt that these troublesome sequelæ do often affect the internal as well as external surfaces and structures.

Incidental disorders of circulation.

In this second column, which is devoted to the derangements of the nervous system which are incident to pregnancy, you will observe that the mind, as well as the body may be implicated. Indeed it sometimes happens that the mental disorders which accompany and which follow pregnancy are altogether the most prominent. In some cases they are most pronounced directly after conception; in others they come about

Nervous affections.

the period of quickening; and in others still, they develop very decidedly as term approaches. It is in the latter class of cases especially, that the most serious conditions of mental derangement may extend beyond the period of pregnancy and result in puerperal insanity. Even where this effect does not follow directly, the less acute forms of mental disorder may come from an acquired predisposition on account of pregnancy, and declare themselves long after the period of gestation has terminated. The whole subject of utero-mental pathology is intimately related to the influence which pregnancy may have upon the subsequent health of women.

Metro-cerebral disorders.

As a clinical rule, the diseases of the sensory and motor nerves which occur during gestation are self-limited, like those of diphtheria. Exceptionally, however, they appear to be fastened upon women because of weakened and enfeebled conditions of the general system, that have been induced or perpetuated by lactation, or perhaps by a too early and copious return of the menses while she is yet nursing her child.

Affections of the cerebro-spinal nerves.

Although, as a class, the disorders of digestion that occur during pregnancy are very frequent and distressing, yet they usually disappear at or before term. The consequence is, that their usual consecutive effects are neither very lasting nor serious. The structural changes that are proper to the liver in the form of fatty deposits may continue during lactation, but, except in rare cases, they are finally disposed of without compromising the health of the subject in the future.

Disorders of digestion.

The same is true of the incidental affections of the urinary system, the most prominent of which is the development of Bright's disease, with its accompanying albuminuria, uræmia and a tendency to eclampsia. However formidable these accidents of pregnancy, they are almost always self-limited, and can therefore hardly be said to increase the predisposition to the special diseases of non pregnant women.

Disorders of the urinary organs.

Unless they are connected with cardiac lesions of structure or function, or of both, pulmonary disorders that may occur at this time have no especial significance. With these exceptions they are more apt to be improved than aggravated by the development of the gravid uterus.

Pulmonary disorders.

(2.) *Of the Diseases that are cured by Pregnancy.*—It is not unusual for a woman to date her pregnancy from the time in which she experienced a marked improvement in her health. Nervous, hysterical and dyspeptic disorders may sometimes be suspended or disposed of in this way; but the diseases which are most likely to be benefited because of conception are the different forms of ovaritis, dysmenorrhœa, chronic metritis and prolapsus uteri.

The vis medicatrix of pregnancy.

I think that in our day it is generally conceded that the effects of pregnancy upon the development of phthisis pulmonalis, is that, although for a time it may be retarded, yet afterwards its progress will be hastened. This is especially true in case of rapid child-bearing.

Effects upon phthisis.

(3). *Of the Diseases that Co-exist with Pregnancy.*—This division includes carcinoma of the cervix-uteri and of the labia, interstitial and sub-peritoneal fibroids of the uterus, ovarian tumors, ulceration of the os-uteri, and pelvi-peritonitis. The tolerance of these complicating affections and foreign growths, and their reciprocal influence upon pregnancy, would make a curious chapter in the clinical history of utero-gestation.

Influence of pregnancy upon co-incident disease.

The growth of a malignant disease like cancer, or of a benign tumor, like a fibroid, may be retarded while the fœtus is developing in utero. But their course is likely to be more rapid after term. An ovarian cyst may cease to grow, or it may be removed during pregnancy, as has been done by Spencer Wells and others, with no very great risk to the mother, and still less to her offspring. The uterine ulceration may disappear spontaneously as the neck of the womb is developed, or the peritonitis may become latent until the puerperal period has arrived.

Influence upon ovarian tumors, etc.

But either of these morbid contingencies may act as a predisposing or an exciting cause of abortion. In short the reciprocal tendency of things when these affections co-exist with pregnancy is that the first of these two conditions must be practically arrested and disposed of, or the second must come to an end.

In conclusion I ought to tell you that the mere fact that most of the diseases of pregnancy are self-limited, does not give exemption from them in the non-pregnant condition. For, as a patient

who has once had an attack of croup, of pneumonia, of enteritis, or of epilepsy, is all the more likely upon exposure to have a second attack, so a woman who has suffered during pregnancy from either of the diseases named in the table on the black-board, will be rendered more prone to it than if she had never conceived. This remark applies with especial force to the diseases of the uterus and its appendages.

The diseases of pregnancy may recur in the non-pregnant.

Nor should you forget that, while pregnancy is a powerful predisponent of the diseases that are peculiar to women, menstruation may afterwards act as an exciting cause thereof, so that, practically, it is as if gestation repeated itself every month. It is not strange, therefore, that, under these conditions, the conservative powers of Nature are so entirely overcome, and the uterine cachexia is so often developed.

Menstruation may be the exciting cause for this relapse.

LECTURE III.

GENERAL PATHOLOGY—CONTINUED.

4. PARTURITION.—Effects of, on the nervous system; in primiparæ; do. multiparæ; traumatic lesions of. 5. PUERPERALITY.—Diseases of; uterine involution, results if defective; laceration of the cervix as a cause of post-puerperal diseases; the cachexia. 6. LACTATION.—A necessary condition of uterine retraction, and a natural prophylactic of post-puerperal disease; effects of non-lactation in abortion. *Case.* —Why nursing is prophylactic of uterine disease; weaning may be either harmful or salutary; effects of undue lactation. *Case.* 7. THE CLIMACTERIC.—The diseases of, are plethoric, anæmic, or nervous; the class of affections that are *caused* by this crisis, those that are *cured* by it, and those that *co-exist* with. Post-climacteric affections.

IV. PARTURITION.—In the order that we have chosen, parturition, or labor, is the fourth epoch in the life of a woman. Its relation to gynæcology is peculiar and important, for it puts an end to the period of pregnancy and a limit to the diseases that pertain especially to that function, of which, indeed, it is the turning point.

Labor is related to the diseases of women in two especial ways, (1) through the shock and strain to the nervous system, and (2) through the traumatism of the maternal passages.

Effects on the nervous system.

The nervous tension to which every pregnant women is subject in a greater or less degree, culminates in the act of parturition. This is true, whether she goes to term or not. For the extrusion of the ovum necessarily involves a drain of nerve force, and a shock, also, if the labor is premature, or the circumstances attending it are peculiar. Although our neurologists are not always careful to remember it, the seeds of special forms of nervous disease are often sown in child-bed.

In primiparæ.

First labors are especially obnoxicus to this charge. Naturally enough, with the resistance of parts that have never been dilated or properly developed for the performance of this function, the degree of suffering will be proportionately increased. Here the strain is usually more prolonged and severe in its effects. Moreover, in the great majority of cases, the young wife enters upon this terrible ordeal without an ad-

equate idea of what it involves or includes, except that, after passing through purgatory, she will, or may, become a mother.

A traditional fallacy.

There is a tradition which holds that among savages women do not suffer in childbirth; and there are those who insist that if the women in civilized society could live in a more barbarous or "natural" manner, they also would be exempt from the contingencies of labor. But Roberton has shown that this half-truth is not worthy of credence. The fact is that, if ignorance and a lack of care when their children are born, the absence of almost all the civilizing influences of home, of fresh air, proper diet and cleanliness, could give exemption from the wear and worry of bringing their children into the world, and from the diseases that may and do follow, our hospitals and dispensaries for women would be very much crippled for the means of clinical illustration. And what is true of the clinics is true of the community.

Effects in multiparæ.

But you are not to infer that, in second and subsequent labors, there is an immunity from these nervous sequelæ. Every woman, whose first labor was very painful and protracted, and accompanied by convulsions, hæmorrhage, after-pains, or even a broken breast, dreads a repetition of her former experience. And more than this, she may have such a horror of it, that through fear of becoming pregnant again, her subsequent health may be so shadowed and modified as to predispose her to the most intractable nervous diseases. The experienced physician would as soon think of treating valvular disease of the heart without inquiring if his patient had ever had the rheumatism, as of prescribing for these nervous disorders in multiparæ without any reference to the lying-in as a factor in their production. You will observe that my invariable habit in these cases, no matter if they have had a dozen children, is to go back in my inquiries and learn all that I can of the parturient history of the patients that are brought before you.

Traumatic lesions.

The traumatic contingencies of labor give rise to a class of surgical affections that are practically unknown in women who have never been pregnant. Among these diseases are lacerations of the recto-vaginal septum, the vesico-vaginal septum, of the uterine cervix, and of the perineum, subinvolution of the uterus, and prolapsus of the womb, the vagina,

the bladder, and the rectum. Even where none of the soft parts are torn during delivery, the bruising and enormous distention of them, often results in lesions of structure and of function that have a lasting effect upon the health of women.

V. PUERPERALITY.—The puerperal state includes a period of three or more months, beginning with the close of labor. The condition of a woman who has just been delivered is beset with contingencies that may either directly or indirectly implicate her health, and perhaps imperil her life. In my special course on the puerperal diseases we have studied the various causes which induce disease during the lying-in, and their special diagnosis and treatment; and I need not, therefore, consider them now.

Diseases of, are self-limited.

It must suffice to remind you that, as a rule, (a clinical rule, to which there are exceptions,) most of the diseases of the puerperal period are self-limited, providing, of course, that they are not improperly treated. We have a good illustration of this fact in the case of *puerperal paralysis* which you have seen in our hospital wards, and which, like cases of diphtheritic paralysis, has shown a very decided disposition to get well of itself.*

Uterine involution.

There is, however, one condition of puerperal convalescence which is indispensable to a perfect recovery from any and all of the diseases of childbed. That condition is the proper involution or shrinkage of the uterus after delivery. Whatever interferes with this physiological process may bring a train of consequences that shall last the patient as long as she lives. For the retrograde metamorphosis of the uterine structures after labor is quite as important as the changes that occur in the womb during gestation.

Concerns the entire uterus.

A moment's reflection will convince you that the requisite involution of the uterus concerns each and all of its various tissues; and that if it is defective, either the lining membrane of the womb, its muscular or its cellular tissue, or its peritoneal envelope, or perhaps all of them, will very likely become permanently diseased. This is the way in which the various forms of metritis are often entailed upon women. At my last clinic I showed you a case of exfolia-

* De la paralysie diphthérique. Réchérches cliniques sur les causes, la nature et le traitement de cette affection. Par MAINGAULT, Paris. 1860.

tive endo-metritis following an abortion at the fourth month, in which, you remember, that, although six months had elapsed since the accident, we found the uterus to measure four and one-half inches in depth.

Effects of sub-involution.

My own experience has taught me that an arrest of the proper involution of the puerperal uterus is a fertile source of the pelvi-peritonitis and pelvic cellulitis that so often complicate other affections, as, for example, sub-acute and chronic ovaritis, cystitis and the different forms of uterine displacement, more especially flexions and versions of the organ.

Puerperal endo-metritis and sub-involution.

The fact that in a majority of cases sub-involution is preceded by endo-metritis, and that, especially in its catarrhal and pyæmic forms, this lesion is likely to extend through the Fallopian tubes to the peritoneum, illustrates the proneness to a complication of these disorders which may perpetuate itself. There is no doubt that under these circumstances the defective folding of the womb upon itself constitutes a veritable predisponent of uterine disease.

Laceration of the cervix a cause of.

You are, perhaps, aware that Dr. Emmet ascribes the occurrence of sub-involution of the uterus to lacerations of the cervix. He says:*

"It is believed that future observation will establish the fact that, as a rule, the involution is first stayed, and then faulty nutrition occurs as a consequence of some injury received during the progress of labor. To the occurrence of laceration of the cervix, and to the formation of cicatricial tissue in the vagina, and to the displacements of the uterus, by all of which the circulation would be obstructed, we must, in some cases, attribute the continuance of an undue size of the uterus long after a reasonable time has elapsed since delivery."

On the next page the same author states very emphatically that "for many years past he has met with few or no cases of sub-involution which were not due to laceration of the cervix."

Effects of cervical laceration.

Without accepting this view of the etiology of defective involution of the uterus in its fullest extent, there is no question that such lacerations will often account for the erosion, the ectropium, or eversion of the cervical mucous membrane, the cervical leucorrhœa, the

* The Principles and Practice of Gynæcology, by Thos. Addis Emmet, M.D., 1879, p. 443.

cystic degeneration of the mucous follicles in the substance of the cervix, and even for the follicular disease of the throat, and of the mucous membranes generally, which we find in chronic cases of uterine disease. We shall consider this subject in its proper place when we have a clinical case of this kind upon the table for study.

Effects of inconsiderate counsel.

A propos of the importance of securing the proper contraction of the uterus within the first ten or twelve days after delivery, I must caution you against the mischievous habit of allowing the lying-in woman to quit her bed within the first day or two after the birth of her child, and of leaving her without the proper support of the well-applied binder. It is nonsensical to say there is no analogy for these precautions elsewhere in nature. There is no analogy in nature for the use of a bath-sponge or a pocket handkerchief; and such arguments are silly in the last degree. Moreover,

Medical experience may need to be qualified.

when a physician who is in general practice advises his patient to sit up and nurse the child in a couple of hours after it is born, and to get up and go around her room the next day, and she does not become very ill or die in consequence, he does very wrong to conclude that his plan of treatment, or of mal-treatment, is in all respects the wisest and best. For within a very few months, or years at farthest, the gynæcologist will be at work to repair the injuries that he should have prevented.

Another fallacy.

It is another of those harmful half-truths which holds that women in the lower walks of life can get up and go to work directly after childbirth with impunity. Place a hundred such women on our table, one after another, pass the uterine sound very carefully, and tell me if the depth of

A clinical test.

the womb is not considerably increased. Question them closely and answer if the great majority of them have not had menorrhagia, prolapsus, and a uterine leucorrhœa ever since the child was weaned, if not from the date of its birth. There is no doubt in my own mind that this kind of careless and improvident advice is a prominent factor in the comparative increase of uterine affections during the last fifty years. A large share of them are post-puerperal, and avoidable.

Puerperal pyæmia, which is chronic from the outset, is apt to entail a predisposition to suppurative inflammation, especially in

scrofulous women. This fact has a clinical significance and a wider bearing among weak, delicate, scrawny and cachectic mothers than is generally supposed. Indeed, the puerperal cachexia perpetuates itself in this form in a considerable share of our cases. Pelvic abscess, suppurative peritonitis, pulmonary and hepatic abscesses, chronic bronchitis, and intract able forms of catarrhal inflammation, may have their root in this remote cause, and must be treated accordingly.

The puerperal cachexia.

VI. Lactation.—Apart from moral reasons why, if possible, every mother should nurse her own child, which reasons are hackneyed enough, there is a physical argument which renders it indispensable that she should do so. For, in its largest sense, the function of lactation includes something more than the mere nourishing of the offspring.

The application of the child to the breast is the most natural and necessary stimulus for the post-partum contraction of the uterus. In a reflex way the frequent and habitual nursing of the infant is one of the best prophylactics of the puerperal diseases, for it is the means of emptying the womb of all debris and discharges that would putrify if they were retained. This tonic contraction is the best safeguard against septic and pyæmic absorption, and also against an inflammation of the uterine tissues.

The natural stimulus for uterine retraction.

Although in exceptional cases the secretion of milk may begin as early as the fifth month of pregnancy, one reason why the puerperal inflammations and fevers are to be dreaded in miscarriages is, that we cannot put the child to the breast in order to secure the proper uterine contraction. This contraction is the first step towards the normal involution of the organ, and if it is not taken there is an arrest of diminution in size, form and weight, and it very soon becomes subject to disease. Its walls become hypertrophied, instead of being lessened by absorption, and its lining membrane congested and inflamed. This soon gives rise to chronic metritis, with its inevitable accompaniments of menstrual hæmorrhage, prolapsus, and leucorrhœa. We had a case recently in our clinic that will serve as an illustration.

Effects of non-lactation in abortion.

Case.—Mrs. S., aged 26, had a miscarriage at the fourth month of her first pregnancy, five months ago, in consequence of which

she was confined to her bed for six weeks. The menses were very irregular and copious, with bearing-down pains when standing or walking, with great weight in the pelvis. During the monthly flow this weight and pressure are so increased that she is obliged to keep her bed most of the time. This was her first visit to the clinic. She had been cauterized for some time for uterine ulceration.

The attention of my sub-class was called to the prolapse of the uterus, the total absence of cervical laceration and of ulceration, the redness of the mucous membrane lining the cervix, the slight uterine epistaxis, and the increased depth of the womb, which measured four and a half inches. The points made were, that in this case, certainly, the defective involution could not have depended upon a laceration of the cervix during labor, (as Emmet insists); and that the metritis, menorrhagia and the prolapsus were the unavoidable sequences of the non-involution of the womb.

Secale cor. in.

It may interest you to know that in this case the persistent use of secale cornutum 3, three times daily for six weeks, reduced the depth of the uterus to three and a half inches, by actual measurement, and relieved her entirely of the prolapsus uteri.

Why nursing is a valuable prophylactic.

But there are other reasons why a proper performance of the function of lactation, is prophylactic of uterine disease. The fact that while a woman suckles her child she does not menstruate unless she continues to do so for an unreasonable length of time, is very well known. The result of this arrangement is to relieve the uterus and its appendages of the menstrual congestion, which would have a mischievous effect upon the post-partum involution that is taking place meanwhile. The afflux of blood to the mammary glands is therefore derivative, substitutive and salutary.

Indirectly also, by delaying the return of the menses, nursing usually prevents a recurrence of conception before the normal puerperal changes in the womb are completed. For a season, and for a good reason, it holds both these functions in abeyance.

Weaning may be harmful.

Non-lactation is therefore injurious to the health of the mother by inviting a premature appearance of the menses, and also by increasing the risks of too rapid child-bearing. Either of these results may predispose her to uterine disorders that will be very difficult of

cure. And, when you consider that quite a proportion of mothers in fashionable life are in the habit of turning away their babies on the slightest pretext, you will realize that a failure in the performance of this function is not only prejudicial to the welfare of the offspring, but also and very often to that of the parent.

There are cases, however, in which it is wrong and harmful not to wean the child, as, for example, when the drain upon the mother's strength can not be borne with safety; when the menses have been re-established, and return with regularity and copiously; and when another gestation has undoubtedly begun. If nursing is persisted in when there is menorrhagia, it is like burning a candle at both ends, and no one can say how long the woman's strength may hold out. If she is pregnant again, and does not put her child away from the breast, she will be very likely on account of the mammary irritation to have an abortion, to suffer an interference with the development of the gravid uterus, or to ruin the health of the fœtus in utero.

When weaning is necessary.

We must guard against the effects of undue or over-lactation, for while in general we should encourage the mother to nurse her child, it may sometimes be necessary to caution her against continuing the practice for too long a period. The ill effects of this habit are various. It may give rise to functional and organic disease of the womb, to sub-involution, passive menorrhagia, mental, nervous, and dyspeptic disorders, anæmia and dropsical conditions, recurrent epilepsy, chorea and hysteria, dimness of vision, and reflex disorders of various kinds.

Undue lactation.

If these consequences were self-limited and certain to end with the taking of the child from the breast, I would not pause to speak of them in this connection. But they are more lasting and persistent, especially when the practice has been repeated with several successive children. Some of you remember a case in point, which was that of a poor woman who came to my clinic, and who, within the space of ten years, had had eight children. She had nursed four of these from twelve to fourteen months each, one of them for fifteen months, and the other three had died when they were only a few months old. So that, as her story ran, although she was only

Case.

thirty-five years old, and had been married but ten years, yet during that brief period she had nursed a baby for about *eight years!*

VII. THE CLIMACTERIC.—This is the last act in the physiological drama of a woman's sexual life. It is beset with vicissitudes that are commensurate with the importance of the function which it limits and terminates. A careful study of the influence which the "change of life," as it is commonly called, exerts upon the health of women is indispensable to you as students of gynæcology. For this is indeed a "critical period."

General qualities of the climacteric disorders.

The disorders which are especially incident to this period have their root in one of three conditions of the general system, and for this reason may be classed as plethora, anæmia, or nervous.

The plethoric troubles.

There is a plethora from which women suffer at this time, although they may not have been subject to it before, which is due to the suspension of an habitual discharge, and the stoppage of a drain that, for thirty years or more has weakened the blood and prevented a repletion of the vessels and an increase in the proportion of the red corpuscles. This plethora predisposes them to various forms of local congestion and inflammation. But, you should remember that a tendency to hyperæmia in a woman at the change of life, does not necessarily increase the risk of inflammation of the uterus and its appendages as it would have done before the cessation of the monthly flow. Its principal effect is to involve those organs which are not especially connected with the generative system, as for example, the brain and spinal cord, the heart and lungs and the stomach, or some part of the digestive apparatus.

We recognize this condition of plethora in the flushed face, the headache, the vertigo, the dullness of the intellect which often amounts to a pseudo-narcotism, the anxious look, a tendency to local perspiration, and the restless, discontented, dissatisfied behavior of the patient. The pulse is usually full, but sometimes it is feeble and thready, and there often is a decided tendency to hæmorrhage.

The anæmic troubles.

The climacteric anæmia is really a species of chlorosis. The condition is the opposite of that which we have just described. The blood is deficient in red

globules, the vessels are not turgid, the pulse is weak and irregular, the skin is ashy, sallow, and of a waxy or dirty-white hue. The anæmic murmurs, the cardiac symptoms, the digestive derangement, and the capricious appetite of chlorosis are often present. Not unfrequently there is a dropsy of the cellular tissue, or within serous cavities, that is very difficult to cure. Sometimes this latter condition is so pronounced as to remind one of what Grauvogl styles the "hydrogenoid constitution."

The nervous troubles.

The nervous type of disease at this critical period may be hysterical, in which case it is a prolongation of what was incident to menstrual life, or it may be altogether new and peculiar to the menopause. The latter is what Raciborski styles a "nervous plethora."* This form of complication is most pronounced in those who are naturally nervous and excitable, and in those who have been compelled by circumstances to undergo a great deal of worry and to carry more than their share of mental weight and anxiety. It often happens that a woman will pass through the child-bearing period, with all of its sufferings, cares and responsibilities, in comparative health and comfort, only to break down and to become a nervous wreck at the climacteric.

Bearing these general facts in mind you will be prepared to understand and to appreciate the kind and character of the diseases which are liable to recur at the change of life. The predominence of either of these types at this particular turn in the clinical history of woman, develops a class-bias which complicates all of the disorders to which she is liable, whether they are sexual or not. As with puberty, so with the climacteric; there are the diseases which are *caused* by this crisis, those which are *cured* by it, those which *co-exist* with it, and those that follow it.

Conclusions.

Diseases caused by this crisis.

The affections that are caused by the climacteric are of the most varied character, and, as I have just hinted, are many of them of the non-sexual order. They include menorrhagia, irregular menstruation, epithelioma, leucorrhœa, hæmorrhoids, dyspepsia and the vomiting of mucus and of blood, flushings and local perspira-

* Traité de la Menstruation, ses rapports avec l'Ovulation, la Fecundation, etc., par A. Raciborski, Paris, 1868, p. 267.

tions, cardiac, intestinal and hepatic disorders, gnawing pains in the stomach, spinal, intercostal and abdominal neuralgia, colic, nervous irritability, hysterical narcotism, insanity, chloro-spanæmia, asthma, paralysis, and apoplexy.

Diseases *cured* by it.

The change of life often cures or puts an end to chronic metritis, to the further growth of uterine polypi and fibroids and to the various uterine displacements, to leucorrhœa, hysteria, to a menstrual ataxia, to mammary pains, and to sufferings in the rectum and the bladder, which have depended for a cause upon the recurring menstrual congestion. Amenorrhœa, dysmenorrhœa, and all kinds of catamenial disorders cease by limitation when this crisis has really come.

Diseases that *co-exist* with it.

The various neoplasms of the uterus, as fibromata, polypi and cancer may co-exist with and survive the menopause. As a rule, those diseases which run their course during this period, and which continue after it, are either modified and practically disposed of by it, or they develop more rapidly when the menses have finally ceased. Ovarian cysts, and uterine and ovarian cancer are often hastened in their progress by the climacteric. And, so, likewise, are the various forms of tuberculosis, and of chronic, hepatic, renal and cardiac disease.

Post-climacteric affections.

Beside the proneness of some of the diseases of puberty to return at the climacteric, as, for example, certain skin and bowel affections, and phthisis, there are other disorders that are likely to follow it. Among them are chronic headache, deafness, insomnia, insanity, apoplexy, the various forms of paralysis, and the development of cancer of the uterus and of the mammary glands.

LECTURE IV.

PHYSICAL DIAGNOSIS IN GYNÆCOLOGY.

1. INSPECTION.—The four varieties of; *abdominal* do. *of the external parts;* do. *by the uterine speculum;* do. *by the forcible eversion of the rectum.* 2. MENSURATION.—Modes of applying. 3. PALPATION, *abdominal* and *vaginal*, cases to which the former is applicable; the "touch" per vaginam; conjoined manipulation and when it is of use; the uterine touch and the conditions requiring it.

Before we begin the study of any particular affection, I think it best to direct your attention to the rational signs that belong to the diseases of women, and the proper method of eliciting them. With the addition of internal exploration, these methods are practically the same as those which are employed in the diagnosis of the diseases of the heart and lungs. This table on the blackboard includes the various methods of physical exploration which may be used in the diagnosis of the diseases of women:

1. INSPECTION.
2. MENSURATION.
3. PALPATION.
   - *a* *Abdominal* palpation.
   - *b* The "*Touch.*"
     - By the vagina.
     - By conjoined manipulation.
     - By the rectum.
     - By the bladder.
     - By the use of the sound.
4. PERCUSSION.
5. AUSCULTATION.

1. INSPECTION.—The examination by the sight is resorted to in four different ways; [*a*] To the external abdomen; [*b*] directly by the unaided eye in diseases of the external genitals; [*c*] indirectly to the vagina and uterus, by means of the speculum; and [*d*] by the forcible eversion of the rectum.

Varieties of inspection.

Abdominal Inspection.—In inspecting the abdomen the patient should either lie upon her back or stand erect. In many cases it is a good rule to place her in both of these positions successively.

This mode of examination detects any abnormal projection, such as the tumor formed by the gravid uterus at or after the fifth month, a considerable enlargement of either of the ovaries, fibroid tumors, an excessive accumulation of urine, and ascites. It is not an accurate means of exploration, for it often happens that abdominal tympanitis may cause such a projection of the parietes as shall simulate the tumors of which I have just spoken.

Inspection of the External Genitals.—Direct visual inspection is resorted to in diseases affecting the vulva, as, for example, in vulvitis, vaginitis, pruritus, abscess of the labia, abscess of Duverney's gland, vulvar enterocele, and hematocele, and also in urethritis and vascular tumors of the meatus, gonorrhœa and chancre, cystocele, rectocele, and external displacements of the uterus. This method of examination, however disagreeable it may be, is sometimes indispensable. It should be made in a strong light, and in order to prevent a necessity for its repetition, should be as thorough as possible. Here is a speculum for the labia that is sometimes useful.

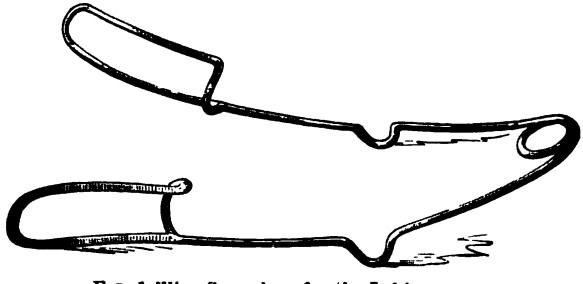


FIG. 1. Wire Speculum for the Labia.

Inspection by the Uterine Speculum.—By the aid of the uterine speculum, which is a very old instrument, the neck of the womb

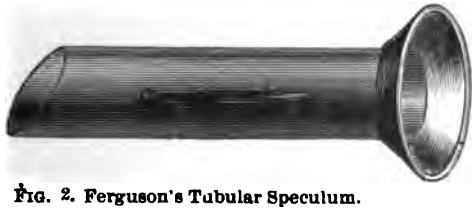


FIG. 2. Ferguson's Tubular Speculum.

and the wall of the vagina are exposed to our view. Here, upon the table you will find a variety of speculæ, from which we must

select the most appropriate for the case that is under treatment. The simplest, and cheapest, and one that will answer for ordinary practice, is Ferguson's tubular speculum, which is made of a tube of glass that is coated with quicksilver, covered by India-rubber, and afterwards varnished. There are two forms of this instrument.

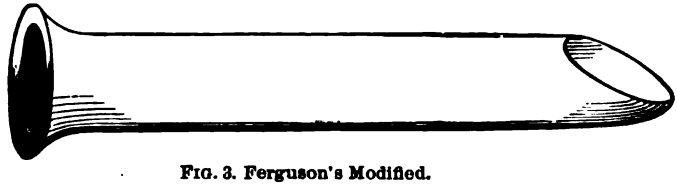


FIG. 3. Ferguson's Modified.

In either of its forms this speculum has, however, such a limited range of application that it will not do to depend upon it exclusively. Indeed there is no speculum in the form of a tube that fills as many indications as the valvular instrument. And I recommend you either to buy Cusco's duck-bill speculum, or some modification of it. Here it is: This instrument, which was devised by a prominent oculist in Paris, has, like the obstetric forceps, been changed and modified a great many times, but without being materially improved upon. For all the practical purposes to which a bivalve speculum can be applied, the old form is the best. I advise you not to buy one that is too short, as some of them are; for I have found it a good thing to have a speculum which can be used either as a long or short one, just as I have found it best to supply myself with the long obstetric forceps which can be used at the inferior strait also, when it is necessary. You can make use of a long Cusco as a short instrument, if you need to; whereas a short one would not always answer your purpose.

FIG. 4. Cusco's Duck-bill Speculum.

The best speculum.

It is a good rule in gynæcology, and in general surgery, not to multiply or to load yourself down with instruments. If one speculum will fill a number of indications, you do not need to be burdened with half-a-dozen sizes or as many kinds of the same instrument.

A sensible rule.

I also advise you not to select a bivalve speculum in which one blade is shorter than the other, for if you become expert in the use of this instrument, and are careful to adapt it properly, you will do better work if the blades are of equal length. The reason is, that in the latter case the speculum is applicable to all kinds of cervical deformities and deviations, while in the former it is not.

Cautions.

Nor should you select one in which the upper blade is divided, for when it has been passed, and the blade separated, the roof of the vagina will be very apt to fall between them and to obstruct the view. This is the objection to Nott's Nelson's, Meadows', Graves', Bozeman's, Jenks', Ball's, and also to Hough's five-blade speculum.

Here is a specimen of my friend Nelson's instrument, which,

FIG. 5. Nelson's Speculum.

when the blades are divided, in case of a redundency of the vaginal tissue, will permit it to fall between them on all sides, and so defeat our purpose.

Hunter's short and stubby bivalve is especially adapted to those cases in which the cervix is either very short congenitally, or as a consequence of amputation or of excessive cauterization. There is no practical advantage in having one of the blades cut open as some of these are for the purpose of passing the uterine sound, and for its manipulation afterwards. I shall refer to this matter when I come to speak of the uterine sound.

There is no doubt that Dr. Marion Sims' discovery of the spec-

ulum that bears his name was one of the most important events in the history of American Medicine and Surgery. This speculum also has been variously modified but without being materially improved since Sims' first

Sims' Speculum.

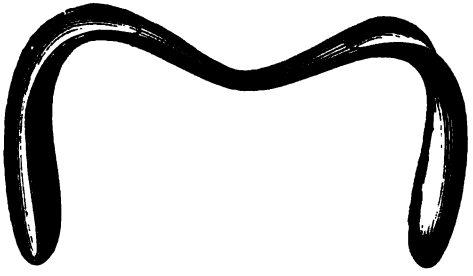


FIG. 6. Sims' Speculum.

used it as a perineal depressor, in making the operation for vesico-vaginal fistula.

As the patient is lying upon her left side, the posterior commissure of the vulva and the perineum are drawn steadily backward toward the sacrum and coccyx. The air dilates the vagina and by means of this wire depressor applied at its anterior portion the cervix is fully exposed to view, by what is practically a bivalve speculum.

As you will readily infer this speculum is specially adapted for use in surgical operations within the vagina. I shall therefore have occasion to show you how and when to use it when we come to the operating table. There is a modification of it however,

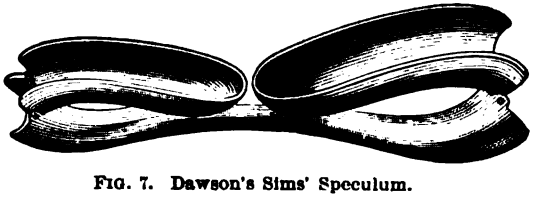


FIG. 7. Dawson's Sims' Speculum.

which adapts it to ordinary practice, and which has the advantage of being portable and of affording two sizes of the same instrument. This is known as Dawsons' Sims'.

In the use of this instrument the single blade is passed over the perineum with its concave surface looking towards the symphysis-pubis.

Here is a modified Sims', attached to a self-retaining rubber

harness that runs along the back and over the shoulders of the

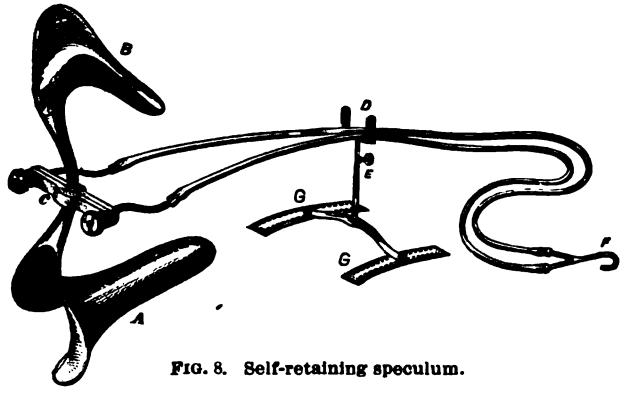


FIG. 8. Self-retaining speculum.

patient. Happily, I have forgotten the name of the "modifier."

Although Dr. Barnes has really improved upon Neugebauer's instrument, I have found it inconvenient and objectionable. For even with the greatest care in its introduction and withdrawal, one is very likely to pinch the vaginal folds and to hurt the patient.

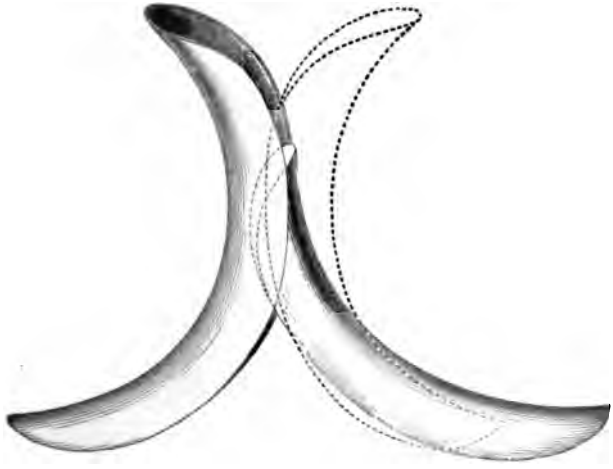


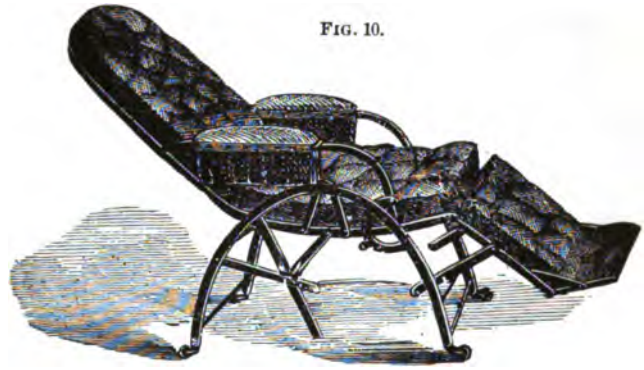
FIG. 9. Barnes' Neugebauer's Speculum.

How to apply the speculum.

As to the mode of applying the speculum, authorities are not quite agreed. Without quoting all they have said and thereby confusing your minds on this subject, I will briefly state what my own

practice has been. The patient is usually placed upon the back with the hips drawn to the edge of the bed, or, of the operating chair or table. We may use Wilson's chair,(Fig. 10), or Archer's

FIG. 10.



(Figs. 134-5-6), or Chadwick's table, (Fig. 11); but in the hospital you will observe that my patients are placed upon a short, firm table, which has been made expressly for that purpose.

The table.

The bed or table should be drawn before a window in a strong direct light, for the sunlight is better than any kind of an artificial light, in making these examinations. When the sky is dark and lowery, as it is to-day

FIG. 11.

we can use a hand lamp for the purpose. But, as a rule, the flame of an ordinary lamp is so yellow as to change the complexion of the parts, and to give a wrong idea of the lesion which you may find. For this reason an alcohol lamp, or a wax or sperm candle, is altogether preferable. If you are careful to burn the sulphur first, and not to set

The light.

the clothing on fire, a common match will sometimes answer your purpose.

Before the speculum is introduced it should be warmed and thoroughly anointed with lard or sweet oil, or, better still, with soap at the dressing table. In the hospital we use cosmoline for this purpose. In delicate persons glycerine is sometimes very disagreeable.

Mode of passing the speculum.

Having first passed the finger in order to find the whereabouts of the cervix uteri, and to have an idea of its size, sensibility, and also of its mobility, the speculum is introduced with its blade or blades, in a direction that is parallel with the labia. Entering in a line with the axis of the vagina, as soon as it has fairly passed within the vulvo-vaginal orifice, the instrument must be turned so that its broad surfaces shall look towards the pubis and the rectum. In most cases it should be expanded just before reaching the cervix. This manipulation greatly facilitates its introduction, while it lessens the pain, for you must remember that, except at its external orifice, the vagina is a flattened tube, and not a round one, as is generally supposed.

How to cleanse the cervix.

In order to expose the cervix more thoroughly to view, a bit of soft cotton wool, or absorbent cotton, may be wound about the end of the long dressing forceps. With this extemporized brush, which is always clean and new, we may wipe away the discharges that lie within and about the os-uteri. In many cases this little operation is best accomplished by bringing the brush into delicate contact with the part, and then turning it over and over, so as to entangle the mucus and to take it away without injury to the underlying surface.

Painless withdrawal of the speculum.

If I may judge by the complaints of patients who have come to me from other gynæcologists, there is quite as much need of care in the removal of the speculum, in order to save pain, as in its introduction. For this purpose there is a simple expedient which I have practiced, and which, for twenty years or more, I have recommended to our pupils. It consists in turning the screw which separates the branches, only so far back as permits the withdrawal of the instrument, while it prevents their complete closure and precludes

the possibility of pinching the soft parts. If the cervix is very much swollen the additional precaution of keeping the blades of the speculum widely separated until they can no longer grasp the neck of the womb, is easily practiced. Half the dread that delicate women have of a local examination, by the use of the speculum and other instruments, would be done away with if the doctors were more careful in their application and removal. And it is just such wrinkles as this that you will need to know at the bedside.

Inspection by the Forcible Eversion of the Rectum.—In the year 1868, Dr. H. R. Storer, of Boston, wrote as follows:*

"By passing the finger into the vagina and pressing it backward and downward over the levator ani, the rectum can be everted through its sphincter like the finger of a glove. This can ordinarily be done to a very great degree; it can always be done to a certain extent. Should the sphincter be unusually irritable, and spasmodically contract with violence when touched from below, or thus from above, it can be forcibly distended by the thumbs and temporarily ruptured. * * * We can in this manner ascertain the presence of chancre, or of chancroid, the character of polypi, the extent and number of internal hæmorrhoids, the position of the inner orifice in fistulæ, etc., with far greater certainty and alacrity than by the speculum, or than can be done in the male; while the mere eversion process, provided rupture of the sphincter is not necessary, is attended by very little pain."

The greater difficulty of treating the diseases of the rectum in women than in men, and their frequent complication with uterine affections may sometimes compel us to resort to this method of inspection.

II. MENSURATION.—We measure the abdomen in cases of ovarian dropsy, uterine fibroids, pregnancy, extra-uterine pregnancy and ascites. The measurements that are most frequently taken are the perpendicular, which extends along the linea alba from the symphysis pubis to the umbilicus, and thence, if necessary, to the zyphoid cartilage; the circular, which passes around the body at its largest girth, about or below the umbilicus; and the diagonal measurements, or from the anterior superior spinous process of the right ileum to the point of the last floating rib of the left side, and *vice versa*.

Modes of applying.

* Vide the American Journal of Obstetrics and Diseases of Women and Children, Vol. I., page 71.

I shall have such frequent occasion to illustrate this mode of physical exploration in my clinic, that it is unnecessary to say more of it at present. Strictly speaking, it is also applied to the measurement of the depth of the uterus by the employment of the sound; but that form of mensuration will be considered when we come to speak of the uterine sound as an aid to diagnosis.

III. PALPATION.—There are two modes of palpation that are applied to the physical diagnosis of the diseases of women, *viz.*, the *abdominal* and the *vaginal*. By the former, or external variety, the outline, size, texture, and mobility of abdominal and pelvic growths and tumors, and the presence of dropsical fluids within the peritoneum, or within cysts of the ovary, or of the broad ligament, are detected with considerable facility.

Abdominal palpation.

The value of this means of exploration varies with experience, and with the tact that is used in its application. I recommend you to practice it whenever it is convenient in cases of pregnancy, after labor, and during the puerperal state, in order to familiarize yourselves with it. *En passant*, there is no better time for the location and the identification of extra-uterine growths than directly after delivery, when the process of involution has just begun.

It is of very little use to practice this hypogastric touch unless you are careful to apply the palmar and tactile surface instead of the tips of the fingers. For it is only by this means that you can obtain a proper idea of the firmness and the other physical qualities of a tumor. Moreover, we may sometimes gain a great deal by seizing and grasping the growth and closing the hand around it; and besides, this method is not half so painful as that of punching the parietes with the ends of the fingers, as is usually done.

A clinical hint.

The "Touch" per Vaginam.—Vaginal palpation, or the "touch," as it is usually styled, has the widest range of application in gynæcological practice, and is really of more service than any other mode or means of physical exploration.

The usual method of applying it is to place the patient either upon the back or upon the left side, as in obstetric practice. It is well, however, to vary the position that is chosen with the object sought for by the exam-

Position of the patient.

ination. Thus, if you desire to examine the vulva and the vagina thoroughly on all sides, to feel along the course of the urethra, to ascertain if the uterus or the bladder is prolapsed, or to measure the length and the circumference of the cervix, (if it is not beyond reach) she had better lie upon her back. But, if you wish to know by the touch whether the womb is flexed upon itself, if it is high in the pelvis, to explore the posterior roof of the vagina, and to sweep the finger around the cervix, place her on her left side. In order, however, to examine the right or the left lateral cul-de-sac, it is sometimes best to have the patient lie upon the opposite side, and to use the index finger of the right or of the left hand, as the case may require. Where there are intra-pelvic tumors which affect the size and the position of the uterus, the bladder, or the rectum, we may find it necessary to apply the touch while the patient is standing erect. In the virgin the touch is best applied by placing the patient on the left side, with both knees drawn up and closely applied to each other.

The finger, or fingers, for it is sometimes necessary to use more than one, should first be anointed as directed for the speculum. Then, the patient being covered with the bed-clothing, or with a sheet provided for the purpose, the index finger which is flexed upon itself, may be passed between the labia with its point toward the anus and its palmar surface looking backwards. Once within the vulvo-vaginal orifice, the necessary manipulation should be slowly and carefully made.

The use of the finger.

The object of the "touch" as thus applied, is to note the heat and dryness, or moisture of the vagina, its capacity, the integrity of the vesico- and of the recto-vaginal walls, the size and sensibility of the uterine cervix, any inequalities of its surface, the form and comparative size of the two lips of the cervix, the shape and patency, or the closure of the os-uteri, the mobility of the womb, and the presence of tumors in the retro-uterine pouch. Thus you will see that the skilful gynæcologist will need to have the means of diagnosis literally at his finger ends.

What may be learned from it.

Conjoined Manipulation.— What is sometimes styled bi-manual palpation consists in the use of abdominal and vaginal palpation at one and the same time. While the index finger of one hand is within the vagina, the bladder having been emptied and the knees flexed, the other hand is placed upon the abdomen, and by pres-

sure with the tips of the fingers directed toward the superior strait, the pelvic organs can be readily felt around the symphysis pubis and between the two hands. This method of exploration is not, however, applicable when the patient is standing.

When it is applicable.

This double mode of palpation is useful where the uterus rests very high in the pelvis; where its size is increased as in pregnancy, sub-involution and hypertrophy; in case of uterine and ovarian tumors, and abscess of the broad ligament; to detect the anchorage of the womb in cancer, or as a consequence of pelvi-peritonitis, or of pelvic cellulitis; in flexions and versions of the uterus; and in the diagnosis of all kinds of retro-uterine tumors. Its application is very easy in thin and delicate women, and, as a rule, directly after delivery at term; but it is more difficult in those who are fleshy, or who have never borne children. In order that it shall be successfully employed the patient should understand what it is that we are about to do, otherwise, it might happen that through fright or timidity the abdominal muscles would be so contracted as to interfere with our purpose.

The uterine touch.

The combined touch is sometimes very useful also, as an aid in the diagnosis of intra-uterine growths and tumors. In this case the finger is passed into the uterine cavity, which permits of a tactile examination of the lining membrane of the womb, by which we may recognize the presence of granulations, polypi, fibroid tumors, and abnormal growths of various kinds; and also of the conjoined examination of the uterine parietes and of the neighboring organs. It is sometimes, although not very often, of great importance to have the womb so under our control that we can examine it as thoroughly and as carefully as if it were lying on the table before us.

Conditions for applying it.

But, in order that the uterine "touch" may be practised successfully, two conditions are indispensable, (1) that the os-uteri be thoroughly dilated, or dilatable; and (2) that the uterus shall be so free from abnormal attachments as to permit of its being pressed downward into the pelvic cavity by the hand that is upon the abdomen, so that the finger may be applied to its internal surface. Without the former, the admission of the exploring index finger would be impossible; and, without the latter, the retreat of the uterus would be inevitable.

LECTURE V.

PHYSICAL DIAGNOSIS—CONTINUED.

Physical Diagnosis, continued. The three kinds of rectal touch; manual exploration of the rectum, or Simon's method; the "touch" by the bladder: the touch by the sound, why and when it should be employed; directions as to time and mode of its introduction, the position of the patient; the conjoined use of the speculum and the sound, a rare *Case*. Sim's elevator as a sound. The sound in fibromata; do. instead of the tenaculum. 4. *Percussion*—Object and range and use of, in pregnancy, ascites, ovarian dropsy, and uterine tumors. 5. *Auscultation*—Use and range of, cases to which it is adapted.

At the close of my last lecture I had not finished the subject of palpation, as one of the modes of physical diagnosis in the diseases of women. It, therefore, remains to speak of the "touch" as it is sometimes applied through the rectum, the bladder, and by means of the uterine sound and the probe.

The Rectal "Touch."—There are three kinds of rectal touch that we may find of service in our specialty: (1) the introduction of the index finger into the rectum; (2) the combined application of the finger within the rectum, and of the thumb of the same hand within the vagina; and (3) the passage of the hand into the bowel, for the purpose of a deeper and a more thorough exploration of the cavity and the contents of the pelvis. Neither of them, however, can take the place of the vaginal touch to which, indeed, they are complementary.

Of course the rectum should first be emptied of fæcal matter.

With the finger.

The choice of the finger that is to be introduced is quite as important as is the choice of the hand in the performance of podalic version. Do not forget, therefore, that you are to select the index finger whose palmar surface, when it has been passed, will look toward the vagina. For this is the side of the bowel that you will need to explore, and through which you must learn whatever you can of the position and condition of the pelvic organs.

This simple touch per rectum is especially useful in the detection and diagnosis of posterior and lateral displacements of the uterus, and of retro-uterine and fæcal tumors, prolapse of the

ovaries, and also in ulceration, paralysis and perforation of the anterior wall of the rectum. In young girls it is sometimes resorted to instead of the examination per vaginam.

The recto-abdominal touch.

This mode of the touch may also be conjoined with abdominal palpation. For, by external pressure the uterus can often be made to descend, and to be held so that the internal rectal exploration may be more extensive and thorough than it could otherwise be. This expedient also enables us to note the changes in the position of the womb which have been caused by the morbid development of the rectum.

The recto-vesical touch.

Some of the members of the class will recollect the examination that I recently made in their presence, of a woman twenty-four years of age, in whom no trace of a womb could be found. The final, and the most complete test, consisted in passing the catheter into the bladder, and then, with my index finger in the rectum, observing whether I could touch the point of the instrument. If the uterus had not been congenitally absent it must have lain between the finger and the distal end of the catheter, and I could not have felt the latter as I most certainly did. This fact was confirmed by our friend, Dr. Miessler, who brought the patient to my clinic.

The recto-vaginal touch.

But the form of double touch that was practised by Recamier, and extolled by Tilt and others, is the recto-vaginal exploration, which consists in the simultaneous passage of the thumb and the first finger of the same hands into the vagina and the rectum. Gallard prefers the first two fingers, the index and the medius. We may resort to this mode of examination to measure the thickness and density of the recto-vaginal septum; and, also to learn if the smaller tumors as, for example, a prolapsed ovary lying at the lowest extremity of the posterior cul-de-sac, and in this septum are sensitive, movable, or fluctuating. It also permits us to measure the antero-posterior diameter of these tumors or abscesses, as the case may be, and to decide whether and when it is safe or expedient to resort to surgical means for their cure. It is indispensable in the diagnosis of rectocele and rectal cancer, and also in some cases of laceration of the perineal body. Tilt recommends it for the detection and removal of foreign bodies lying in the recto-vaginal space.

In a paper read before the Surgical Association in Berlin, April 13th, 1872, Prof. Simon, of Heidelberg, advised a method of exploration which consists in the dilatation of the anal sphincters, and the passage of the hand into the rectum. He had already practised this method for some years, and was very sanguine of its adaptation to cases in which it was impossible otherwise, to make a complete diagnosis of certain pelvic and abdominal tumors. You will find the full text of Dr. Simon's essay in the *American Journal of Obstetrics*, etc., for February, 1873.

Manual exploration of the rectum.

In performing this exploit, or expedient, the patient will first need to take an anæsthetic. The hand, which in its greatest circumference must not measure more than ten inches, should be thoroughly warmed and anointed, and in what is called the "bloodless" method, the sphincter forcibly stretched with the four fingers of the operator's hand. In the "bloody" method, the anus being very narrow, its margin is enlarged by several notches through its cutaneous border. In rare cases an incision along the raphe and through the sphincter is advised.

When four fingers have been introduced up to the origin of the thumb, it constitutes what Dr. Simon styles an "examination with half of the hand;" and when the whole hand and part of the fore-arm are passed into the rectum, we have an "examination by the hand, or manual examination." He says:

"When the whole hand has been brought into that part of the rectum lying in the concavity of the sacrum as far up as the promontory, we can then introduce three, and even four fingers still further up and a small distance into the sigmoid flexure, and reach above the umbilicus without in the least injuring the intestines or the peritoneum, and the upper portion of the rectum and the sigmoid flexure being extremely movable, can palpate the whole abdomen as far as the lower edge of the kidney.* If all violence be avoided during the exploration of the upper portion of the intestines, and especially if no attempt be made to introduce the whole hand into this part, the examination is entirely without danger. In introducing the hand through the anus, however, more force is occasionally required, and is perfectly admissible, since neither dangerous injuries nor any damage to the subsequent contractility of the sphincter are to be appre-

*The lower point of the kidney can be reached if the thigh of the person under examination be strongly flexed.

hended. If the muscle be so dilatable as to allow the passage of the hand without difficulty, or after superficial incision of the cutaneous margin, no disturbance of its function is produced; if it be necessary to divide the sphincter, the incontinentia alvi lasts ten or twelve days until the wound is healed. The importance of such a dilatability of the anus during anæsthesia, and the possibility of safely palpatiug the organs of the pelvis and the abdomen up to the middle of the latter cavity, the finger being only separated from the organs to be examined by the thin intestinal wall, is very evident. For it is possible, as already mentioned, not only to find foreign bodies in the lower part of the sigmoid flexure, and to extract them without injury to the intestine, but we can also diagnosticate diseases of the rectum, uterus, ovaries, and the pelvis in general, which consist in changes of shape, position, and consistence, with much greater certainty than by the former methods of examination. In examining with four fingers, and, better still, with the fingers of the whole hand introduced into the rectum, we can reach the fundus and anterior wall of the uterus from behind, grasp the ovaries between the thumb and the other fingers, and feel any increase in size or irregularity; we can, in the male, palpate the bladder up to its vertex and detect any diseased condition, such as stones, their size, shape, and number. I am convinced that, the whole hand being introduced, we can, with the fingers, by direct palpation, ascertain the presence of invagination, accumulation of fæces, strictures, etc., as far up as a portion of the sigmoid flexure, feel tumors of the posterior abdominal wall, the mesenteric glands, kidneys, and most of the other organs which are situated in the lower two-thirds of the abdomen or reach down as far,* and thereby gain most useful diagnostic aid. In two cases of ovarian tumor, in which I made use of the manual examination, and in which the result of the exploration was controlled by the subsequent extirpation, I accurately determined the length and size of the pedicle, the nature of the healthy ovary, the absence of adhesions to the brim of the pelvis, and, in one case, two fibroid tumors of the size of cherries, which were situated at the fundus uteri. In a case of multiple fibroid tumors, where I explored in this manner, I distinctly felt the site, size, and breadth of base of the tumors on the corpus and fundus uteri. In one case, I even combined a therapeutical act with the examination, in liberating one of the fibroids of the fundus, which had become wedged into the pelvic cavity and could not be loosened by the fingers alone, from its incarceration, and pushing it with the hand into the abdominal cavity, where I could palpate it with the enlarged uterus in its whole extent. In one case of hydro-

* Tumors of the liver, stomach, and spleen must be palpable in the same manner, if they reach as far down as the umbilicus.

nephrosis I could distinctly ascertain that the tumor had no connection with the pelvic organs, which were entirely devoid of adhesions and allowed me to pass my hand between them and the tumor to the anterior abdominal wall, thus permitting me plainly to recognize the lower body of the hydronephrosis and its attachment at the posterior boundary of the abdomen. The extensiveness of the field of exploration thus opened through the rectum, and the accuracy of the results of palpation lead me to consider the examination with the half or whole hand as applicable to all cases of important affections of the pelvic or abdominal organs, when the modes of exploration hitherto usually employed do not give sufficient information. The inconvenience of putting the patient under chloroform is, in my opinion, completely outweighed by the importance of the information obtained in this manner. The manual examination may be assisted by the simultaneous palpation of the organs in question with the other hand through the abdominal walls (bi-manual examination) as is likewise done in the ordinary explorations per rectum with one or two fingers."

In his monograph on the "*Manual Palpation of the Rectum*," this author subsequently modified his views and qualified his statements concerning this mode of exploration. The general experience now is, that too much has been claimed for it, and that it is only adapted to those rare and difficult cases in which every possible means of clearing up the diagnosis is justifiable. Theoretically it is all that we could desire, but practically, as a single resort, and by itself, it is not to be depended upon. The opinion expressed by Emmet is quite to the point.*

"I have succeeded in passing my hand into the rectum several times, and without the slightest bad result, as the sphincter entirely regained its power in a few days; but I succeeded in gaining no further information than, nor even as much as I could with one or two fingers alone, since, from the cramped position of the hand, there was no freedom of motion. To introduce the hand it is always necessary to administer an anæsthetic. If this is done I can, with two fingers, reach well up to the sigmoid flexure, and by conjoined manipulation make a still more thorough exploration of the pelvis. As the sigmoid flexure is so bound down, I cannot divest myself of the conviction that it is dangerous to attempt to pass beyond it."

When we reach the subject of uterine and ovarian tumors, more especially in my clinic and at the operating table, I shall have

* The Principles and Practice of Gynæcology. By Thomas Addis Emmet, M.D., etc., etc. 1879. p. 70.

more to say of the use and abuse of Simon's method of rectal exploration.

The "Touch" as applied to the Bladder.—The definite proposition to pass the finger into the bladder for the purpose of applying the "touch" to the body and fundus of the uterus anteriorly, was first made by Noeggerath in 1875.* The operation consists in the dilatation of the urethra, either slowly, by means of a suitable instrument, a long sponge tent, or laminaria bougies, or rapidly, by a Molesworth's hollow rubber bougie, or by the direct and forcible introduction of the finger. The patient should be placed under the influence of chloroform or ether, and, on account of the risk of hæmorrhage, the dilatation should not be practised at or very near the menstrual period. The rectum should first be emptied, and the vagina cleansed with an injection of carbolic acid and water; and, in order to counteract the effect of the vaginal mucus on the urine, as a cause of alkaline fermentation, the finger should be anointed with carbolized cosmoline, or a similar disinfectant.

Mode of applying.

Precaution.

Since the course of the urethra is parallel to the posterior surface of the symphysis pubis, the patient should lie upon her back, with the limbs drawn up, as for lithotomy. The index finger of the left hand having been passed into the bladder, that of the right hand may also be introduced into the vagina, or into the rectum, as the case may require, and either form of conjoined manipulation be practised at will. This gives you an idea of what is known as the vesico-vaginal and the vesico-rectal touch.

The vesico-vaginal and the recto-vesical touch.

The kind of cases in which it is claimed that these methods of exploration are useful and practicable are those in which, on account of the density or rigidity of the abdominal and vaginal walls, the usual application of the "touch" has not been satisfactory. These cases include the recognition of small tumors within the pelvis; a final test for inversion of the womb, and for a congenital absence or malformation of the womb; the early diagnosis of pregnancy; for protecting the bladder against injury while removing a portion of the supra-vaginal cervix, and to complete the diagnosis of heteroplastic tumors in the neck of the uterus.

Cases to which it is suited.

*The American Journal of Obstetrics, etc., Vol. VIII., p. 123.

The risks of this expedient are serious enough to more than counterbalance the good results that may be expected from it, and the consequence is that it is not often resorted to; nor is it in very good repute with careful gynæcologists. These risks include the danger from hæmorrhage. from paralysis of the sphincter, with a resulting incontinence of urine, and lacerations and inflammation of the neck of the bladder. The range of use for this method of exploration, when it is expedient, is very limited, for it would not be warrantable in the early diagnosis of pregnancy, nor in the matter of detecting a congenital absence of the uterus, is it in any wise preferable to the conjoined touch afforded by the catheter in the bladder and the finger in the rectum.

Risks and sequelæ.

The "Touch" as Applied by the Uterine Sound.—You are doubtless well aware that this instrument, of which you will find several varieties upon the table, has been in use for centuries. By the ancients it was regarded as a *curative* means. They scarcely used it for any other purpose than to replace the uterus when it had become dis-

In diagnosis.

FIG. 12. The Uterine Sound.

located. But, in the hands of modern gynæcologists, it is regarded almost exclusively as an aid to *diagnosis*. In this manner it enables us to diagnosticate:

(*a.*) *Certain Diseases of the Uterine Cervix.*—If we know what the proper dimensions and length of the neck of the womb are, or should be, by passing this instrument, we can decide if the case is one of hypertrophy, atrophy, or immobility of this part of the organ; if it is imperforate; if there is cervicitis, or a polypus, or uterine displacement. Atresia, obliteration and flexures of the cervix, as well as a more or less permanent closure of the internal os uteri, in mechanical and spasmodic dysmenorrhœa, are also recognizable by means of the sound.

In diseases of the cervix.

(*b.*) *In diseases affecting the cavity and body of the uterus.*—The

very ease of introduction of the sound through the internal os uteri, during the inter-menstrual period, suggests that all is not right within the cavity of the womb. It is a sign of endometritis, or of the presence of some foreign growth, as, for example, either submucous or interstitial fibroids, polypi, hydatids, cauliflower excrescence, or of cancerous degeneration.

In diseases of the uterine cavity.

(*c.*) *To measure the size of the uterus.*—In health the unimpregnated womb measures about two and a half inches from the os to the fundus uteri. But this organ is so distensible, so given to development and to variations in its size and capacity from pathological, as well as from physiological causes, that we may sometimes learn much in a diagnostic way from its actual measurement. This, of course, is best accomplished by means of the uterine sound. Passing the instrument in the direction of the axis of the organ, through its whole length, and taking care to indicate the extent to which it has entered the uterus, we obtain the longitudinal measurement of that organ. If it is lengthened to four, six, or more inches, and the woman is not pregnant, or has not very recently been delivered, the information thus obtained makes us confident that something is wrong. By this means, therefore, we may be able to diagnosticate a longitudinal hypertrophy of the womb, a very interesting case of which, I will take an early occasion to show you. By it, also, we may detect sub-involution and super-involution, as well as enlargements of the uterus due to the development of various kinds of tumors, as, for example, uterine fibroids, within its cavity. Thus, in the case of Mrs. H., you will remember, although she had a large ovarian cyst which was removed in presence of the class, the uterus measured six inches, and was found upon actual inspection to be very considerably enlarged. In order to be accurate in this kind of measurement, it is well sometimes to use the graduated sound.

For measurement.

In uterine hypertrophy.

(*d.*) *To test the mobility of the Uterus.* — In not a few cases the non-susceptibility of the uterus to motion is a diagnostic test of great value. We apply this test by introducing the sound, and then observing whether, when we move it laterally and carefully, the womb moves along with it. If it does, the organ is free, and

not bound down by adhesions or organic change; but if it does not, some pathological change has been going on which has resulted in its becoming glued or adherent to the neighboring parts.

This sign is present in cancer of the inferior segment of the womb, and in certain confirmed cases of pelvic cellulitis, and more frequently in pelvic peritonitis. We also meet with it, but more rarely, in old, chronic cases of retroversion and of retroflexion of the womb, in which the organ is anchored, so to speak, by strong adventitious bands attached to the rectum and the posterior pelvic tissues.

In uterine carcinoma

This, as you know, is one of the means of differentiating between uterine and ovarian and other abdominal tumors. Placing the left hand over the abdomen, and moving the sound in utero with the other hand, as I have just indicated, if the motion of the womb is communicated to the tumor, or, in other words, if the womb and the tumor move simultaneously, in the same direction and to the same extent, we are assured that the tumor is uterine. But if the uterus can thus be moved independently of the tumor, there is no doubt of its being extra-uterine.

In uterine tumors.

(*e.*) *In the diagnosis of Uterine Displacements.*— It will occur to you, without doubt, that any considerable disorder of place in the womb would necessarily include a deviation of its axis from the normal one. The direction of its long diameter, and therefore of its curve, would be changed. Now, in order to ascertain what direction the luxated organ has taken, and the extent of the displacement, more particularly in versions and flexions thereof, we must depend almost entirely upon the sound. If the womb is *in situ*, what might be termed the pelvic curve of the instrument (as we speak of the pelvic curve of the obstetric forceps), looks forward, toward the symphysis pubis, and the point thereof corresponds with the axis of the superior strait. But if the womb is bent forwards, or backwards, or laterally, the curve or concavity of the instrument will be found towards the bladder, the rectum, or the right or the left iliac fossa, as the case may be. Sims' uterine probe, which is a modified or attenuated sound, is sometimes very useful in this class of cases.

In deviations of uterus.

In prolapsus the sound enters more readily, and its point takes

the direction of the axis of the inferior strait or of the vagina, and looks toward the hollow of the sacrum, or toward the sacro-vertebral eminence. In procidentia, the os being at the lowest part of the tumor, the sound may be readily introduced. By this means we differentiate between procidentia and inversion of the womb; for, in the latter, the os uteri can not be found before the organ is reposited, and therefore in inversion it is quite impossible to pass the sound until that operation is performed.

Of late years, as I have already said, the ordinary sound is not often used as a means of replacing the uterus. In exceptional cases, however, it may still be used for this purpose. Drs. Elliott, Sims, and others, have brought out such improvements upon the old instrument as render it much more safe and valuable as a means of fulfilling this indication.

For the reposition of the womb.

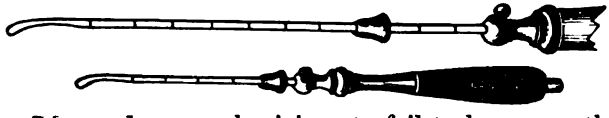


Fig. 13. Valleix's Uterine Sound.

I have known physicians to fail to learn anything from a resort to the sound because they did not have tact enough to discover, and no one had told them, that there were certain times and seasons in which this instrument could be used to more advantage than in others. As a rule, I think you will find that the sound can be more readily passed in the early than in the later part of the day. If you can be permitted to make the operation early, before the patient is up, or has been upon her feet in the morning, it may be much more easily and thoroughly accomplished than if you wait until toward evening or bedtime.

In the morning.

Sometimes it is well to select a time which is a few hours, or perhaps a day in advance of the menstrual period. The preparatory dilatation having been effected in advance of the flow, the internal os uteri is lazily agape, and less irritable than usual, and the sound is made to enter with but little delay, pain or trouble.

In advance of the monthly flow.

You would not attempt to pass it when the patient is very much alarmed or excited, agitated and apprehensive. Neither would it be advisable in case of menstrual retention with softening of the cervix, lest the

When the patient is calm.

woman might prove to be *enceinte*, and you might bring on a miscarriage. Nor would it do any good, but might possibly do harm, to introduce it too soon after menstruation, or directly after delivery. Its use is also contra-indicated in pelvic peritonitis, pelvic cellulitis, and pelvic hæmatocele, for in cases of this kind it would cause great pain and might work serious mischief.

Unless the cervix uteri is closed by an atresia of its canal, which is comparatively rare, the chief difficulty in introducing the sound is met with at the internal os. This obstruction is caused either by a change in the course of the utero-cervical canal at that point, or by an irritable condition of the muscular fibres (which form a sort of sphincter about the orifice) which causes them to contract spasmodically on the approach of the instrument.

Difficulty at the os internum.

It is a very common error to suppose that the healthy uterus is nearly straight, when in fact it is not so. Cruveilhier, and other anatomists, have shown that, even in little girls, its fundus is thrown forward, as in anteversion, toward the bladder. Opposite the junction of the neck with the body of the organ, there is a curve which is in the form of an obtuse angle, as is shown most clearly in this beautiful model, and in the diagrams on the black-board.

Uterine axis not straight.

Now, in order to enter the uterine cavity, the instrument must follow this curve at the internal os uteri, otherwise its point can not reach to the fundus. If the curve, or flexion forward, were uniform and unvarying, in different women, there would be little trouble on this account. But it is not so. For we find that, even in healthy persons, there is the greatest possible difference, not only in the shape, size and position of the womb, but also in the course and direction of its canal. This explains the fact to which I have before alluded, that, having learned the individual peculiarity of a patient in this respect by the passage of the sound, it will be less difficult to perform the operation upon her in the future. There are many exceptions, however, to this rule.

Variation in uterine curve.

It is because of the varying course and curve of the uterine canal in different subjects, and in health and disease, that it is best to use a flexible sound, which is capable of adapting itself to the existing curvature, instead of a very stiff one, which would not yield,

Kind of sound that is preferable.

and which would require more of force to introduce it. For this reason, the copper sound, and in some instances the whalebone probe, is preferable to Simpson's old-fashioned sound. This copper sound will insinuate itself, whereas in a considerable proportion of cases, the old one can not be introduced without an unwarrantable degree of force. Where the uterine canal is bent acutely, forming an elbow, or the uterus is twisted upon itself spirally, we may sometimes pass a Sims' probe, such as I hold in my hand, and then withdraw it so carefully that it will retain its shape. The larger sound can then be bent into the same form, and afterwards passed more readily.

Concerning the best position for the patient to assume, something will depend upon the nature of the case which is to be examined. Usually, it is best for her to lie upon her left side, on the bed or couch, to have the thighs flexed on the abdomen, and the legs on the thighs. This will enable you to find the cervix most readily, and to give the proper direction to the point of the instrument, when it has passed into the cervical canal. If she lies upon the back, and the uterus is not prolapsed, more especially if the vagina is long and your index finger is short, you will experience considerable difficulty in reaching the neck of the womb at all. And when you have reached it, the finger will come against the anterior lip, and the organ will recede into the hollow of the sacrum, so that it may be next to impossible to pass the sound even through the external os uteri.

Position of the patient.

There are exceptional cases in which the womb is displaced in an upward direction, in which, no matter what the position of the patient, it is very difficult to pass the sound. In these cases, it is recommended to let the patient stand upright, with her back against the wall, while the operation is being performed. But ordinarily this is not requisite.

An exception.

If there is retroversion or retroflexion, the woman may be placed on the bed, couch or table, as for the introduction of Sims' speculum, on the left side, far over upon the abdomen, with the right thigh flexed and the left one straight. Or, if this is not sufficient, with the aid of gravity, to bring the fundus forwards, so that the sound may pass readily, she may take the knee-elbow or prone

In displacements backwards.

position. In the latter case, before she gets upon the knees, you had better secure the cervix for fear it may recede and pass beyond your reach. This indication may be met by means of the uterine tenaculum, an ordinary volsellum, or what answers equally well, and is less painful, by introducing the sound as far as may be before she turns over, then keeping it within the cervix while she is changing her position.

In displacements forward.

In anteversion and anteflexion you may take the precaution to recommend her to lie on the back for a number of hours before you pass the sound. She should also be instructed not to void her urine unless it is absolutely necessary, for about the same interval, in the hope that its accumulation in the bladder may help to restore the womb to its proper position. Indeed, you should not forget that the fullness or emptiness of the bladder and the rectum may greatly influence the facility with which it is possible to pass the uterine sound.

Conjoined use of speculum and sound.

It is the habit of some physicians always to use the speculum as a means of facilitating the introduction of the sound. Since the invention of Sims' speculum especially, this practice has become quite popular. My own opinion is that, while in rare cases it may be necessary to use these instruments conjointly, in ordinary practice we can get on quite as well, or even better, without the speculum and the tenaculum. You can learn to pass the uterine sound without the help of vision quite as soon and as adroitly as you can learn to pass the female catheter by the sense of touch alone, and without any exposure of the patient's person. And I think you should try to do so.

Points to be observed.

The chief things to be done in acquiring this species of tact are to place the patient in a proper position, to ascertain the direction of the uterine curve, to manipulate carefully rather than forcibly, to have the proper instrument, and not to be in too great a hurry. I have already spoken of the proper time and posture to be chosen. In order to learn the course of the uterine canal, the "touch" must precede the attempt to pass the sound. By passing the finger carefully on every side of the cervix, as high up as possible, you can get the direction of the cervical axis, and recognize any marked flexion of the

uterus, which is most apt to take place at a point opposite the internal os uteri, where the peritoneal coat is lacking in front. In case of the different versions the os and cervix must be located before the sound could be introduced.

In ordinary cases, and with the tip of the right index finger at the external os, the sound can be passed along its palmar surface, while being guided by the left hand, and made to enter the canal of the cervix. When it has passed an inch or so within that canal, the handle of the instrument should be depressed toward the posterior commissure of the vulva, and its curve turned toward the symphysis pubis. A little delicate manipulation and tact will now cause it to pass through the internal os uteri and into the uterine cavity. Sometimes, however, it may be necessary to withdraw the sound and to change its shape somewhat. Or it may have failed to pass because its point was lodged in one of the lacunæ which are so numerous in the cervical canal.

Mode of introduction.

If you use too much force it is possible for the instrument to pass not into the uterine, but into the abdominal cavity. This is especially liable to occur in case the sound slips and passes into the Douglas cul-de-sac; and also where the tissues of the uterine cervix have been softened and somewhat disorganized as the result of chronic disease. Fatal peritonitis has sometimes resulted from this accident.

Danger from too much force.

If the patient is young and nervous, tell her precisely what it is that you propose to do; that there will be no cutting, and but little pain; that, in truth, this is only another means of extending the "touch" farther than the length of your finger will permit. Her attention should be diverted while the operation is going on.

Explain.

There is as much difference between two of these sounds which, to all appearance are precisely alike, as there is between two catheters. One will find its way like an intelligent agent, but the other almost invariably goes wrong. When you have selected a good one, let me counsel you to use it habitually and exclusively.

Choice of a sound.

Above all things do not be in haste. This is a delicate little operation upon the careful performance of which more may depend

than you perhaps imagine. At any rate you will be more likely to fail than to succeed if you are rash and precipitate. It is better to take fifteen, twenty, thirty, or more minutes and do no harm, than to hurry the thing over without doing any good, or learning anything. If you fail altogether at one session, make another appointment with your patient and try again. You may be more successful next time.

"Festina lente."

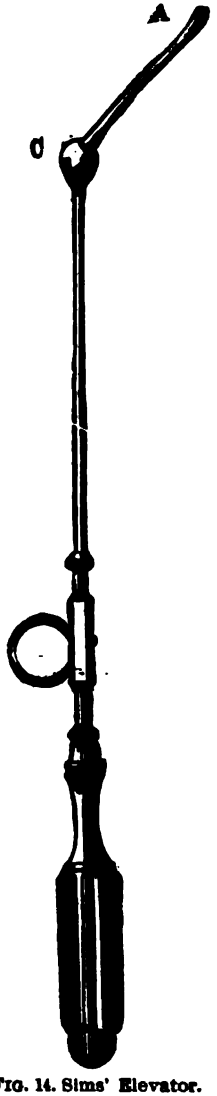


FIG. 14. Sims' Elevator.

Case. — Some of you will remember a case in my clinic during the spring term, in which it was impossible to pass any form of uterine sound that we could find. Prof. ——, an expert gynæcologist, being present tried for a long time, and finally gave it up. One week later I resorted to an expedient which I had twice tried before in similar cases, which was to use a Sims uterine repositor as a sound, and succeeded in a very few moments. The case proved to be one of a fibrous growth in the supra-vaginal portion of the cervix anteriorly, and my theory was that only such a sound as could be bent at a very acute angle, and the elbow of which was firm, could possibly enter the womb. Here is the instrument:

Sims' elevator as a sound.

Another use of this elevator as a sound is to pass it through the internal os-uteri, in order to fix the womb while the abdomen is being examined in case of fibroids and other abdominal tumors.

The elevator in fibroids.

A few years ago I fell into the habit, in my clinic, of using the sound in a particular manner in the diagnosis of uterine fibroids. It consisted in first passing the instrument, and afterwards, with the hand upon the abdomen, rolling the tumor and observing whether the sound moved consentaneously with it. This plan, which answered an excellent purpose at our clinicaltable, may serve you equally well when the same manipulation with the touch applied to the cervix, is not altogether satisfactory.

The sound in fibroids.

Another of my "wrinkles" is to use the sound instead of the tenaculum or the volsella, to bring the uterus towards the vulva for a more careful inspection and exploration. This is done by passing it carefully through the internal os-uteri to the fundus and allowing it to remain in situ for the space of five or ten minutes, when, if the uterus has no unnatural attachments, the organ will descend and come readily within our reach. As an operative expedient, however, this mode of bringing the uterus downwards will not answer our purpose.

Sound versus the tenaculum.

As a modification of the sound for the purpose of extending the touch to the uterine cavity, in case of a very narrow or tortuous canal of the cervix, and for the delicate recognition of inequalities of the uterine mucous surface, as well as of intra-uterine growths, the probe is very useful. There are several varieties of these probes, of which the flexible silver one, known as Sims' probe is the best.

The uterine probe.

FIG. 15. Sims' Silver Probe.

Thomas' hard rubber probe, and his elastic probe also, are sometimes of excellent service.

FIG. 16. Thomas' Hard Rubber Probe.

4. PERCUSSION.—In the application of percussion and auscultation to the diagnosis of those uterine and ovarian tumors which are above the superior strait of the pelvis, it is very fortunate that they almost always come forward and lie against the abdominal walls. By so doing they push away the intestines and are directly accessible. This fact renders their removal, as well as their diagnosis possible, and it should always be borne in mind.

The position of uterine tumors.

Two objects may be gained by percussion when it is applied to the diagnosis of abdominal tumors:

(1.) It enables us to map the outline of the tumor or tumors; and (2), by detecting fluctuation, to recognize the presence of a fluid when it exists in the tumors.

The intestinal resonance.

In the healthy state the intestines which float within the abdomen, and which are in contact with its parietes, are so filled with gas as to give rise to what is called the "intestinal resonance" on percussion. There is a condition, however, in which the area of this resonance may be diminished physiologically. When the gravid uterus rises above the superior strait, after the fourth month, its fundus inclines forward, and, in proportion as its size increases with advancing pregnancy, the area of dullness on percussion also increases. So that, in this case we have a uterine tumor which is not morbid, and the outline of which can be indicated by this mode of physical examination.

The uterine tumor in pregnancy.

The area of dullness.

In diseased states, when a tumor of any kind, whether it be solid, fluid, or composite, lies in contact with the parietes of the abdomen, similar conditions obtain, and we take advantage of this fact to indicate their topography. The area of dullness is in proportion with the extent of the tumor which lies directly against the internal surface of the abdominal walls, and which pushes the intestines away, either laterally, posteriorly, or upwards into the epigastric region.

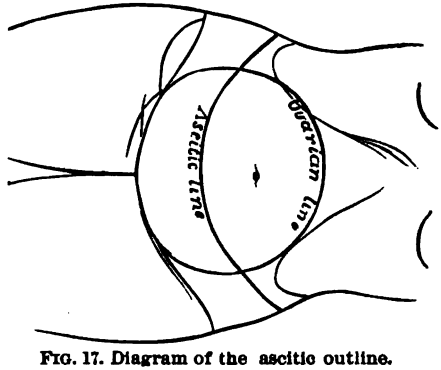


FIG. 17. Diagram of the ascitic outline.

In ascites.

In ascites, when the patient is lying upon her back, and when the accumulation of the dropsical fluid is not very large, the dullness on percussion is at the sides of the abdomen and above the symphysis pubis; and the area of intestinal resonance is around the umbilicus. This condition is clearly shown in the drawing: (Fig. 19.)

If, however, the peritoneum is more fully distended, and the accumulation is very large, the characteristic resonance of ascites in the region of the umbilicus may be lacking altogether, and the whole extent of the abdomen be dull on percussion.

In ovarian dropsy.

In ovarian dropsy, no matter what the posture of the patient, if the tumor is large enough to extend beyond the umbilicus, with very few exceptions there will be dullness on percussion throughout its whole extent, and the

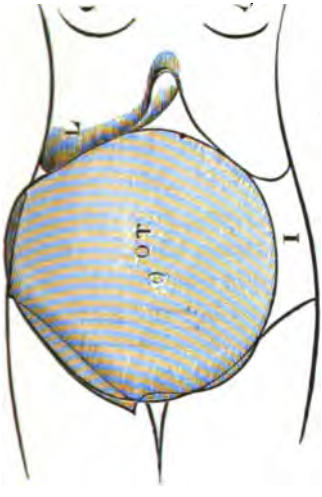


FIG. 18. Dullness in ovarian dropsy.

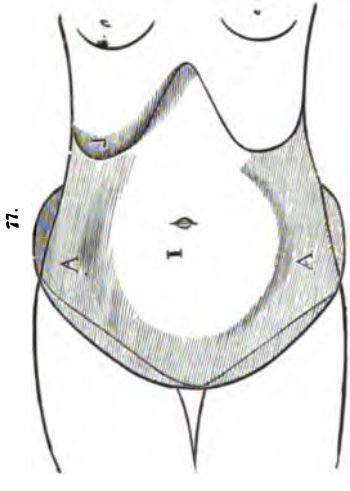


FIG. 19. Dullness in ascites, etc.

rounded outline of the tumor can be more easily distinguished. In this case the intestinal resonance will be found above, and at one or both sides of the cyst, as is shown in this diagram.

The posture of the patient.

It is very important for you to remember that it sometimes makes considerable difference whether percussion is applied while the patient is standing, or when she is lying down. In ascites the same rule holds as in the case of hydrothorax; the line of dullness is concave when the patient is standing erect, and perpendicular, with the axis of the body when she is lying down. In ovarian dropsy the outline of the tumor, and of the dullness also, is always convex. Here we have another illustration: (See Fig. 17.)

Percussion is often useful in the detection of enlargements of

the uterus and its appendages, from other causes; as, for example, in uterine fibroids of a considerable size, hydatids (falsely so-called), cysts of the broad ligament, extra-uterine pregnancy, in tumors formed by the effusion of serum, in pelvic peritonitis and pelvic cellulitis, and by the accumulation of blood in pelvic hæmatocele. Its practical application to these forms of uterine disease will be considered at the proper time.

Percussion in uterine tumors.

5. AUSCULTATION.—Whether mediate or immediate, auscultation is practised in the same general way as in the physical diagnosis of diseases of the chest. Its use in gynæcology is, however, much more limited. A few years ago it was claimed that peculiar and distinctive vascular murmurs were always present in ovarian dropsy, and that the souffle which may be heard in uterine fibroids (especially at the month, when the texture is more loose and relaxed), had a certain diagnostic significance. But these theories have been abandoned, and the only real practical use of auscultation in gynæcology in our day is limited to the detection and recognition of the fœtal heart sounds in case of pregnancy.

Use and range of.

6. TAPPING.—Paracentesis of the abdomen is less in vogue than formerly, because its abuse has often been productive of mischievous results. When the contained fluid is thin enough to run through an aspirator-trocar, it may sometimes be well to draw off a sample for examination; but it should not be done indiscriminately. As occasion offers in my clinics, I shall teach you how to properly use this means of diagnosis. (See Lecture LVIII.)

7. THE EXPLORATORY INCISION.—This is so valuable and important an aid to diagnosis that it is the final appeal in doubtful cases of abdominal disease of almost every description. During the course of the winter we shall probably have occasion to resort to it. (See Lecture LVIII).

PART SECOND.

THE DISEASES OF PUBERTY.

LECTURE VI.

CHLOROSIS.

Chlorosis. Case.—Digestive, cerebral and cardiac symptoms, scrofulous do., blood changes in,—the nervous symptoms; the pulse, the appetite, menstrual derangements, the skin; etiology of; diagnosis of, from jaundice and anæmia; prognosis; treatment, for the general and emotional causes, the cachexia, iron in, the citrate of iron and strychnia in. *Case*, special indications for remedies—the diet, exercise and travel.

Case.—Miss ——, aged 18, complains of a complete loss of appetite, and of headache. She is listless, and suffers greatly from palpitation of the heart, especially after exercise. At times, she has a dull, dragging pain in the cardiac region. The anæmic murmur (*bruit de diable*) is easily recognized. Until about a year ago she felt very well, but since that time these symptoms have been steadily increasing in severity, The skin is pale, of a greenish-yellow tint, and almost transparent.. Her lips, tongue, and alæ nasi are almost colorless. The eyelids and features are slightly œdematous, particularly after sleeping. The teeth are decayed, the finger nails brittle. She has never menstruated, and says that her mother and her elder sister were more than 19 years old when their menstrual function was first established.

In rare instances chlorosis is a congenital affection. A large proportion of cases occur in the young and unmarried. Absence or suppression of the menses is so frequent and almost invariable an accompaniment of chlorosis, that some authorities have regarded it as identical in nature with amenorrhœa. Others are not decided as to which is cause and which effect—whether the chlorosis is the cause or the consequence of the menstrual derangement.

Chlorosis and amenorrhœa.

We remark in chlorosis a decided impairment of the vegetative functions. There is always more or less of headache, anorexia, gastric derangement, dyspnœa, fluttering, palpitation, timidity, general malaise, constipation, and hypochondria. In some cases these symptoms persist for years without proper recognition and relief. They are exceedingly lycommon among young, delicate girls, especially among those who work in shops and factories, and who follow sedentary pursuits, as

Digestive symptoms.

seamstresses and school-teachers. Their persistence and the accompanying ill health frequently lead physicians to decide that such patients are suffering from inflammation of the brain or its membranes, ulceration of the stomach, phthisis pulmonalis, organic disease of the heart, of the liver, or of some other organ.

The headache is very prone to take on the form of hemicrania, and is not unfrequently mistaken for neuralgia. Sometimes it is regularly periodical. It is always paroxysmal, and is greatly aggravated by emotional causes, over-anxiety, and too much of mental labor or worry. In rare cases it is so severe in degree as to produce delirium, spasms, and even mania. And thus it happens that the patient may suffer a temporary loss of memory, or she may decline into a state of mental torpor, and general insensibility. Chorea, hysteria, partial paralysis, and epilepsy, are among the possible concomitants and sequelæ of this headache in chlorotic subjects.

Cerebral symptoms.

While they are really the least serious, the heart symptoms are the most alarming to the patient and her friends. Chlorotic palpitation, as it is termed, is due to a functional change in the rhythm of the heart's action; this change is of nervous origin, and has no necessary connection with organic disease of the heart. It may continue for years without inducing any structural changes, or the prolonged functional disorder may insidiously injure the heart's texture.

Cardiac symptoms.

There is a strange relation or sympathy between the generative system of the female and the heart. One woman has menstrual retention from dysmenorrhœa, and all her sufferings are referred to the cardiac region. Another has menorrhagia, and she complains only of similar symptoms. A third, who has chronic ulceration of the os uteri, tells the same story. In a fourth, the sole pathological result of an excess of sexual indulgence is disclosed in the same identical symptoms. The same may be true of amenorrhœa, prolapsus, ovaritis, and chlorosis. By physical exploration we can detect no difference in the incidental conditions of the heart. The whole præcordial trouble is symptomatic, nor will the objective cardiac symptoms enable us to differentiate between them.

Sympathy between generative organs and the heart.

In chlorosis the pulse is usually, but not in every case, slower

and weaker than natural. It may not exceed fifty or fifty-five beats in the minute, and is sometimes as low as forty-five or forty-eight. Now and then, however, you will encounter a case in which it is considerably quickened. As a rule, the more marked the anæmia the more frequent the pulse, providing, of course, that the impoverished condition of the blood is not the result of sudden and excessive hæmorrhage. In chlorosis, as in hysteria, the pulse has this characteristic, that whatever its usual rate of frequency, no matter what the condition of the patient, or the circumstances in which she may be placed, that rate is but little, if at all, changed thereby.

The pulse.

The anæmic murmur, (*bruit de diable*,) which, in most cases of chlorosis, may be heard over the præcordial region, but more distinctly along the course of the great vessels, as the carotid and femoral arteries, is a curious and suggestive symptom. Some authorities believe it to be caused by an impoverished condition of the blood, in which there is a deficiency in the proportion of red corpuscles. Others ascribe it to a diminution in the volume of the blood contained in the vessels. It occurs in anæmia as well as in chlorosis.

The anæmic murmur.

There is not unfrequently a total loss of appetite. The patient may subsist for months upon an incredibly small quantity of food. In other cases the most unheard-of caprices are likely to be indulged. She craves such *outré* articles as chalk, plaster, bits of clay, of coal, or of slate-pencil, cinders, sand, magnesia, grains of coffee, and vinegar. A frequent peculiarity of the appetite is a total disrelish for, and dislike of, every variety of animal food. One of my chlorotic patients had not tasted a mouthful of any kind of meat for more than ten years. In some the appetite is fitful. They will fast for a long time, and then eat excessively. Generally, they do not anticipate or enjoy their meals, but "go through the motion" of eating at stated periods, simply because it is expected of them in the family and in society.

The appetite.

In consequence of this impairment of the digestive functions, a train of symptoms is sure to follow. The bowels become inveterately constipated, or there may be alternations of constipation and diarrhœa. The breath is sometimes disagreeable, or even fœtid. In a few cases observed

Incidental symptoms.

by Marshal Hall, it had the odor of new milk. In very rare and extreme cases hæmatemesis or malæna may ensue. Sometimes there is obstinate and persistent ulceration of the stomach, with intractable vomiting of ingesta. The cellular and muscular tissues become flabby. There is general and progressive emaciation. She becomes bed-ridden, and is believed to have passed into a hopeless decline. A species of dropsy, either general or local, may supervene. Some patients with chlorosis suffer great torture from gastralgia. In others there may be successive attacks of gastro-enteritis. Organic lesions of the liver and spleen are frequent concomitants of chlorosis, especially in the west and southwest, and in all malarial regions.

It is unusual for this disease to exist without more or less menstrual derangement. The most ordinary complication of this kind is with amenorrhœa. The chlorosis may set in before the menses have appeared, at puberty, and they may fail altogether. Or there may be an incidental and prolonged arrest of the flow in those who have menstruated before. In either case, the menses do not appear for months, and perhaps for years. The suppression may date from the commencement of the chlorosis, but most frequently it follows in the train of other symptoms. The chlorosis is very apt to come on stealthily and insidiously, so much so that neither the patient nor her family remark anything wrong with her health until the disease is pretty well developed. She may have complained for a considerable period of symptoms of which I have spoken, and in addition have noticed that her catamenial discharges were less free than natural, but it is not, perhaps, until the flow has ceased altogether that any alarm is excited, or counsel desired in her case. It has frequently happened that the co-existence of amenorrhœa and gastric derangement has given rise to suspicions of pregnancy; while in other cases, the arrest of the menses with troublesome chest symptoms has aroused suspicions of incipient tuberculosis.

Menstrual irregularities in chlorosis.

Although she is eighteen years of age, this woman has never menstruated. But in her case there is a family or hereditary idiosyncrasy which may explain this fact. Her mother and sister were nineteen years old before the menses appeared. We cannot, therefore, charge the non-appearance of the flow to the chlorosis, or *vice versa*. From which

Hereditary amenorrhœa.

you will infer that although they may and do frequently co-exist, these disorders have no necessary relation with each other.

Chlorosis and dysmenorrhœa.

You will sometimes meet with chlorosis in a patient who is subject to dysmenorrhœa. In such cases, the incidental hysterical symptoms are more pronounced and persistent. They are very troublesome and difficult of cure. The menstrual flow often becomes so scanty as to increase the difficulty by its retention, and we may thus have a case of painful menstruation resolving itself more and more into one of entire suppression. Or the dysmenorrhœa may develop into menorrhagia, which will further complicate the chlorosis.

Chlorosis in pregnancy, etc.

Chlorosis is also incident to those states in which menstruation is physiologically suspended. It may occur during pregnancy, in child-bed, during lactation, or after the grand climacteric.

Discoloration of the skin.

The peculiar discoloration of the skin, which is very marked in this case, is pathognomonic. In mild and recent attacks it is of a pale greenish tint. Hence the popular name, "green sickness." The lips, alæ nasi, the gums, and the tongue, lose their vermillion hue. The skin is sometimes of a yellowish cast. (Sauvage called chlorosis "white jaundice.") In later stages of the disease, and in very bad cases, the discoloration is more marked. The skin becomes of a waxy, dull leaden, slate-color, sallow, or dirty-white hue, and there are dark lines beneath the eyes, and at the angles of the mouth. The white of the eye has a peculiar pearly, translucent appearance. The face becomes tumid, and the eyelids, especially the upper one, puffy and œdematous. The general surface of the body appears dry, bloodless and opaque. The hands are shriveled, the nails split, brittle and broken.

The mental state.

Patients with this disease are averse to exercise, and to society. They become listless, and sometimes pass into a state of pseudo-narcotism; or they are low-spirited, and look upon life and the future with the most gloomy forebodings. They are disposed to melancholy. They lose interest in their studies, permit their accomplishments to grow rusty from disuse, and, in brief, are really wretched.

Etiology. —The causes of chlorosis are predisposing and excit-

ing. Among the former, the most prominent is the lymphatic temperament. It is extremely rare to meet with it in any other class of subjects. This predisposition is strengthened by a tendency to scrofula. In these persons the blood-making function is liable to such disorder as results in a deterioration of the quality of that fluid. Hence the relative diminution of the red corpuscles, and the proportionate increase in the watery part of the blood, which are almost always present in chlorosis. This predisposition is fostered by whatever hygienic influences may tend to lower the standard of health, and to vitiate the process of sanguification. These causes are usually classed as exciting; but they are only remotely so. They include an exclusive diet of indigestible, inappropriate or unwholesome food, confinement in damp, shady, illy-ventilated apartments, deficient exercise and clothing, unrequited affection, nostalgia, ennui, chagrin, jealousy, fright, sexual excitement, and uterine and ovarian disorders.

Chlorosis and scrofulosis.

Most authors will tell you that chlorosis arises from "a disease of the blood," a phrase which is utterly destitute of meaning. It is true that in many cases the proportion of the red globules is deficient: but unless it be traceable to a loss of blood by hæmorrhage, that is a symptom merely. In anæmia from hæmorrhage of any kind, the poverty of the blood is accidental, and due to an actual loss or withdrawal of the colored corpuscles. In chlorosis, the change in the composition of the blood has been gradual, is the work of disease that has implicated and impaired the process by which the blood itself is made. In the one case it is a chance effect; in the other a natural and necessary consequence of diseased action.

Blood-changes in chlorosis.

I have already explained the physiology of hæmatogenesis. You are familiar with the function of the lymphatic glands and their duties in this relation. Without their aid, the blood could not be manufactured. It is a peculiar predisposition to disease in them which constitutes the chlorotic diathesis. But these glands cannot operate independently of the nervous system, any more than the liver or the pancreas. And so we must go back of them for the prime cause of the disorder.

Hæmatogenesis.

It is "begging the question" to refer the essential pathology of chlorosis to an impoverished condition of the blood. That fluid may contain seven-tenths, or even nine-tenths serum, as found in Jolly's analysis of the blood of chlorotic subjects, but it will not suffice to declare that all the symptoms in this disease are due to, and depend upon, this condition alone. Nor does the relative loss of the red globules represent the disease. The special pathology and etiology of chlorosis are not to be found in the hydræmia, spanæmia, or the chloro-anæmia, which in most cases are attendant upon it. For occasional well-marked cases of this disease are certainly met with, in which there is no manifest change in the composition of the blood.

The spanæmia in chlorosis incidental.

Numerous reasons have been adduced for a belief in the nervous origin of chlorosis. Thus Eisenmann* assigns the following: "(*a*) In certain cases Becquerel and Rodier failed to detect any changes in the blood. (*b*) Chlorosis is much more frequent in females than in males, and it is a well-known fact that the nervous system predominates in the former. (*c*) The incipient symptoms of chlorosis, those which anticipate any change in the blood are nervous, and those nervous symptoms continue through the whole course of the disease. (*d*) Chlorosis yields to those remedies which are known to act favorably in affections of the spinal cord, as morphia, strychnia." etc.

The nervous theory.

To these we may add that many attacks occur in those who are predisposed to chlorosis, in consequence of fright, the exercise of strong mental and moral emotions, sexual excitement, masturbation, and the nervous tension incident to city life and society among the better classes. Dr. Clotar Müller bases his assumption of the nervous origin of chlorosis on (*a*) "the great influence which mental emotions and certain depressions of the nervous system exert upon the origin and development of chlorosis; and (*b*) the powerful curative influence of remedies acting directly upon the nervous system, and manifesting an influence corresponding homœopathically to the depression and general prostration of vital power peculiar to this disease."†

The same author says: "If I may venture to draw a conclusion from my own observations, I should assume as most probable that

* *Bulletin de Thérapeutic*, Sept. 30, 1859.
† Vide North Am. Hom. Quarterly, Vol. VII, p. 158.

chlorosis is originally an affection of the spinal and ganglionic systems of nerves, having a character of weakness and exhaustion combined with erethism and excessive excitability." Becquerel and Rodier confirm this view: "For us, as for some other authors, chlorosis is a disease which has its beginning and its seat, its point of departure primarily, in the nervous system, giving rise consecutively to disorders of digestion, of menstruation, and of the circulation. If this definition is correct, the change in the blood in chlorosis is not a constant and capital fact, but a secondary, incidental phenomenon, which is not absolutely indispensable to the disease."*

Gabalda says emphatically, "We regard this disease as a perfectly distinct neurosis." M. Jolly and Dr. Tilt insist that chlorosis is a neuralgic affection of the ganglionic system. Dr. H. Jones, that "in many cases, occurring among the poorer classes in London, the action of malarious influences upon the ganglionic system is the first link in the chain of causation."

Upon this theory, which is so well supported by facts and by medical authority, we are able to explain the insidious and peculiar character of this complaint Its seat is in the nervous system. Back of all the symptoms disclosed by the solids and fluids, the cause is at work to undermine the general health. And thus it happens that in confirmed chlorosis "there appears to be not a system, an organ, a texture, or even a fluid, in the animal economy, which does not suffer."

I have already said that the menstrual disorders incident to chlorosis are generally considered as the cause, and not the consequence thereof. The argument against this hypothesis is short and simple. In a majority of cases the manifest signs of chlorosis appear before there is any derangement of the monthly periods. In some instances the menstrual function escapes all implication, and the patient has chlorosis without any catamenial irregularity whatever.

Chlorosis precedes amenorrhœa, etc.

Now, if the non-appearance of the flow, or its suppression, or even its excess, were the cause of this disease, one or the other should always precede the pallor of the skin, and the nervous, circulatory, and digestive symptoms of chlorosis; this affection could never

Menstrual complications symptomatic.

* Traité de Chemie Pathologique appliquée a la Medicine Pratique. 1864; p. 155.

exist in one who menstruates regularly; nor could it ever occur, as it really does, in the male subject. We therefore conclude that the menstrual complications incident to chlorosis are symptomatic, and not idiopathic. The real disease is the chlorosis, and not the amenorrhœa, the dysmenorrhœa, or the menorrhagia. It is said that in the West Indies many male negroes formerly sickened and died of a disease which, in all of its principle features, was identical with chlorosis.

With characteristic originality, Prof. Meigs styled chlorosis an "endangial disorder." He referred all the symptoms, but more especially the changes in the composition of the blood, to a pathological state of the endangium, or lining membrane of the circulatory vessels.

Dr. Von Maack* holds that, in chlorosis, it is impossible for the iron of the food to be changed into hæmatin and fixed. And this because the saccharine function of the liver is either disordered or arrested. But this must suffice for the etiology of chlorosis.

Chlorosis and jaundice.

Diagnosis.—You will not be very likely to confound chlorosis with jaundice. The pearly look of the white of the eye in the former disease, and its yellow cast in the latter, will enable you to differentiate between them.

I have drawn the following table, which may help you to diagnosticate chlorosis from anæmia:

CHLOROSIS.	ANÆMIA.
1. Is an idiopathic affection.	1. Is an accident, or sequel of other diseases.
2. Is not caused by the loss of blood, or other debilitating discharges.	2. Is frequently caused by hæmorrhage, suppuration, leucorrhœa, diarrhœa, colliquative sweats, etc.
3. May result suddenly from mental causes alone.	3. Never does.
4. The mental and nervous symptoms are especially prominent.	4. Not so in anæmia.
5. The nervous symptoms initiate the attack.	5. The opposite occurs in anæmia.
6. Fugitive neuralgic pains in the head, the spine, the stomach, the chest, and especially in the side, are almost invariably present.	6. These pains are lacking.
7. May be accompanied or followed by hysterical spasms, chorea, paralysis, or epilepsy.	7. These complications and sequelæ are not incident to this affection.

* L'Union Medicale, February, 1859.

	CHLOROSIS.		ANÆMIA.
8.	The skin is of a greenish, or greenish-yellow tint.	8.	The skin is blanched, pallid, puffy, and doughy.
9.	Hæmorrhages are not very frequent.	9.	Hæmorrhages are very frequent.
10.	Is very rare in male subjects.	10.	Affects the sexes indiscriminately.
11.	Rarely happens in those who are under twelve or over thirty years old.	11.	May occur at any age.
12.	Is limited to women of lymphatic temperament.	12.	May happen to women or men of any temperament.
13.	Is very liable to be accompanied by suppression or retention of the menses.	13.	Is more likely to be accompanied by too frequent and copious menstruation.
14.	May exist and run its course without any perceptible change in the composition of the blood.	14.	Is always characterized by an impoverishment of the blood.
15.	The degree of change in the blood bears no necessary relation to the severity of the disease.	15.	The impoverishment of the blood is in direct ratio with the degree of functional disorder.
16.	Is most common among the better classes of society.	16.	Is most common among the poorer classes.

Although these symptoms are sufficiently distinctive, it sometimes happens that a diagonsis between these affections is extremely difficult, if not altogether impossible. There are, doubtless exceptional cases, in which they co-exist in the same patient.

[Two Cases, Nos. 6366 and 7541, were shown to the class, sitting together, in order that their symptoms and treatment might be compared. The first of these had anæmia with vicarious menstruation; and the second was a decided case of chlorosis. These cases were shown in the same way for some weeks, until they were discharged cured.]

Prognosis.—In the milder forms, and under proper management, chlorosis, is curable. The chief danger is from incidental organic diseases, the most serious of which are cardiac and pulmonary affections, myelitis, tuberculosis, dropsy, paralysis, epilepsy, and repeated hæmorrhages. The disease is of a lingering, tedious nature, and patients get well or worse very slowly. But now and then one who has been ill with this disease for a long time dies suddenly without any premonition. For this reason, your prognosis should be guarded.

Danger from incidental disease.

It is a favorable sign if, under treatment, the appetite and spirits improve, and also if the menstrual irregularity is corrected without forcible measures. Relapses are frequent.

Treatment.—After this analysis of the disease in question, you are prepared to appreciate the difficulties in the way of its most appropriate and successful treatment. Its Protean phases and multiform complications sometimes embarrass the practitioner

exceedingly. The rule, however, holds, that the more carefully the remedy is chosen, providing other very necessary conditions are complied with, the more certain and satisfactory is the result.

In general, you should give especial prominence to remedies which are suited to derangements of the nervous functions, or of the circulation, or of digestion, or of menstruation. These are cardinal points in the special therapeutics of chlorosis. In most cases, the characteristic indications are discoverable in them. In one person the nervous symptoms may predominate; in another, the digestive; in a third, the sexual, and so on. Or, if they are mingled, try to learn the order of their sequence, their cause or causes, and what constitutional or accidental agency serves to perpetuate the mischief.

Remedies for general states.

You may often find the proper remedy by selecting one that is appropriate to the mental or emotional condition which induced the attack. Our works on materia medica teach you what these remedies are. Most prominent among them is ignatia. After this, there are belladonna, hyoscyamus, coffea, opium, aconite, and some others. In selecting from this, and a much larger catalogue, the indications are very similar to those which call for certain remedies in hysteria.

Treatment for emotional cause.

Calcarea carbonica, sepia, sulphur, natrum muriaticum, graphites, ferrum, phosphorus, plumbum, and similar remedies, are often appropriate for the chlorotic cachexia, and in chronic cases may sometimes be given temporarily with good effect, in lieu of other medicines. The first two are especially useful in the menstrual irregularities incident to chlorosis. The same is true of cyclamen and pulsatilla. Other remedies sometimes employed are kali carb., arsenicum, lycopodium, conium, nux vomica, china, chamomilla, helonine, and senecin. Indeed, as in hysteria, almost any remedy in the whole range of the materia medica may be called for. It would be a work of supererogation, as inappropriate as a paternoster, for me to detail all the symptoms which might indicate them in this connection.*

Remedies for the chlorotic cachexia.

Upon the theory that chlorosis and anæmia are identical, and

* For particulars see N. American Hom. Quarterly, Vol. VII, p. 152, *et seq.*

that both affections are due to a deficiency of iron in the blood, iron is regarded by many physicians as a specific in chlorosis. It is almost as universally given in this disease as quinine in intermittent fever, or mercury in syphilis. But, for the best of reasons, it frequently fails to cure. In order to be useful, it should be prescribed upon pathogenetic indications, and in such form and quantity as to be available. When there are only about thirty grains of iron in the whole mass of blood contained in the body, it surely is irrational to attempt to supply any deficiency thereof by thrusting large quantities of the crude metal, or any of its salts, into the stomach. Iron is not appropriate to those cases of chlorosis which are of nervous origin, or in which, from the onset of the disease, the nervous symptoms have been especially prominent. In anæmia proper it is more generally useful.

Iron in chlorosis.

In many cases of chlorosis there is, however a preparation of iron in which I have great confidence. This is the citrate of iron and strychnia, a salt which came into use some years ago. I give it empirically in the third decimal trituration. In my experience nothing is so well adapted to control the whole train of symptoms in most cases, although it is by no means an invariable specific. It seems to combine the good qualities of iron with those which belong to the strychnia group. It will accomplish more than ferrum metallicum, ignatia, nux, or strychnia, when given separately. I could detail several cases of this disease cured with this remedy alone. In this compound form it certainly merits a proving.

Citrate of iron and strychnia.

Case.—A young girl, eighteen years old, has been ill four months. Although not obliged to keep her bed, she has to lie down many times during the day, because of severe pains in her stomach. Those pains are always in the same place, and are better after sleeping, and sometimes entirely disappear. Accompanying these pains there is sick headache and faintness, and a pain about the heart. There is difficulty in breathing, and she is obliged to sleep with her head high. She has a cough both day and night, with but little expectoration. She is not rheumatic, but has had a white swelling on her right knee since she was two years old. Menstruation has been generally regular and normal since its establishment three years ago, sometimes a little too free, but more frequently scanty, and usually accompanied by severe pain. The complexion is very pale, and there are very dark circles under the

eyes. The tongue is pale, and the appetite capricious. Citrate of iron and strychnia 3, four times a day.

Nov. 13. She has had no pain in her stomach since she was here, but the palpitation and the headache still continue. China 3, in the morning and at noon, and citrate of iron at night.

Nov. 20. She is very much better, the pain in the stomach has all gone, the headache is much better, there is more color to the tongue, she coughs less, but is still quite weak. Citrate of iron and strychnia four times a day, and spigelia 3, at night.

Nov. 27. The patient is very much improved, with the exception of the palpitation of the heart, which is aggravated by slight exercise. Spigelia 3 four times a day.

Dec. 3. She has not been so well this week. The menses came, continued three days, with no unusual symptoms. There has been no return of the stomach difficulty. The palpitation of the heart still continues. She has globus hystericus, which is worse at night. The eyes are very sensitive to light, and she has considerable vertigo and headache. There is no exhausting discharge. Belladonna 3, four times a day.

Dec. 11. The palpitation is no better. She can sleep in the daytime but cannot at night. Her appetite is very poor; she is greatly exhausted after the least exercise, and has fainted twice after the attempt. Globus hystericus is better. Ignatia 3, four times a day.

Jan. 8. She feels much better; has more color in her face. The palpitation is less; there has been no return of the gastric troubles or headache, but she is very weak, and fainted twice after a slight exertion. Spigelia 3, four times a day.

Jan. 15. The patient is greatly improved. All the symptoms are better. Continue spigelia 200.

Jan. 22. She is still improving. The palpitation and weakness, with fainting spells, have nearly disappeared. Same remedy.

Jan. 29. "Feels splendid." She can walk, or go up stairs without the cardiac difficulty; sleeps better at night. Continue spigelia 200, four times a day.

Feb. 5. Still improving. Same remedy.

Feb. 26. She is very much better. All the symptoms are relieved. Continue spigelia 200.

The patient reported again in March, and the remedy was changed to ferrum metallicum 3, three times a day. In April she came again to the clinic to assure us, by her general appearance, that the treatment which she had received had restored her to health.

Phosphorus and calcarea phos.

Phosphorus is useful in chronic cases of a tuberculous habit. When caused by grief or worry, or blighted love, or the loss of fluids, calcarea phos. will often answer, especially if puberty is delayed.

Kali carb. is adapted to cases with serious disorders of the digestive system, with thirst, a craving for sugar, puffiness over the eyes, constipation, and prolonged menstruation.

Kali carb.

Ignatia in nervous, hysterical girls and women, and when caused or aggravated by disappointed affection.

Ignatia.

Prof. Hoyne will tell you that calcarea carb. is "a very important remedy in bad cases, with perversions of taste; aversion to meat; longing for sour and indigestible substances; offensive breath; disposition to colds and diarrhœa; swelling and hardness of the abdomen; palpitation of the heart; great dyspnœa; great weakness of the spine; leucorrhœa, and coldness of the hands and feet."

Calcarea carb.

Dr. Holcombe calls attention to the phosphate of iron, in the first centesimal trituration, as especially adapted to chlorotic cases of lymphatic temperament and scrofulous constitution. He says: I was once treating a little child of the scrofulous diathesis, for ulceration of the cornea, conjunctivitis, and a vesicular eruption around the eye. Sulphur, hepar sulphuris, calcarea and other polychrests had been tried in vain, when I suspended the special treatment to check a very profuse urination at night. I selected the phosphate of iron, although the acetate is generally better in such a case. To my great surprise the eye symptoms disappeared in a few days. The disease returned some months after, and was promptly cured by the same prescription. Since that time I have used it successfully in many cachexiæ with degeneration of tissue." In exceptional cases the arseniate of iron answers very well.

Phosphate of iron.

Sepia is adapted to chlorosis with the following symptoms: Palpitation of the heart, sudden flushings bearing down pains in the abdomen with prolapsus uteri and a yellowish leucorrhœa, and a premature and scanty menstruation, with a puffy, pale or yellow face.

Sepia.

There is an acquired form of chlorosis which is the sequel to diphtheria. Dr. G. A. Macomber observed, that for this species of blood-degeneration, helonias was the best remedy. And, taking advantage of this clinical hint, we have found it of great service in chlorotic conditions

Helonias.

following an attack of diphtheria. It may be given alone, or in alternation with china or ferrum in one of its forms.

For an interesting paper on chlorosis arising from mental shock, I refer you to Dr. Hammond's recent report of several cases of this kind cured with arsenic and strychnia.*

Much harm is sometimes done by attempting to force the menstrual flow. You should be careful to avoid this, remembering that the menses will appear as soon as the general health warrants and favors it. Relieve other and more urgent symptoms, restore the physiological equilibrium, and this function will probably resume its accustomed order. There is good reason for believing that the non-appearance of the menses in many cases of chlorosis is a conservative precaution, designed by nature to economize the patient's strength.

Wrong to force the menses.

An exception to the rule just specified is found in those cases of spasmodic dysmenorrhœa, which are incident to chlorosis. Here the most sensible and successful plan of treatment is to address our remedial measures to the cure of the stricture of the uterine cervix, upon which the nervous symptoms depend for a local cause. We may give belladonna, gelsemium, caulophyllin, or some analogous remedy. The warm sitz-bath, or vaginal injections of warm water, may facilitate the flow, and relieve the suffering and the remote nervous symptoms at the same time. But if the spasm of the cervix is particularly obstinate, I know of nothing to compare with the careful and appropriate use of the sponge-tent.

Spasmodic dysmenorrhœa.

Much relief may sometimes be afforded by domestic adjuvants. In case of spinal irritation and tenderness, the back may be sponged once daily with salt and water. Friction along the spine is sometimes very useful. For the relief of local neuralgic pain, in the side and chest especially, the part may be covered with a layer of cotton batting, oiled silk or flannel. If the pain is very acute, dry heat will suffice. If it is rheumatic, the local use of hamamelis may be prescribed.

Adjuvants.

The diet should be selected with great care. It should consist of digestible and nutritious articles, both animal and vegetable. If the patient has a distaste for meat, she may cultivate an appe-

*Quarterly Journal of Psychological Medicine, etc., Vol. III., p. 417.

tite for it, by beginning with salt meat, of some kind, as, for example, cod-fish, mackerel or herrings, dried beef, lean ham, and the like. Or sea-food, as oysters or other shell-fish, may be taken. Eggs or milk prepared in various ways, may tempt the appetite. Bread from unbolted flour, animal broths, chocolate or malt liquors, may be chosen. She should not be ordered to ride or to exercise upon an empty stomach.

The diet.

Moderate exercise in the open air is indispensable. Riding, on horseback or otherwise, is preferable to walking or performing manual labor. And when your chlorotic patients go for an airing in their carriage, be sure they have the light as freely as they have the air. These hot-house productions need it as much as the pale plants that have grown in the cellar. Boating, billiards, croquet and calisthenics may be very useful. But best of all is a change of scene and surroundings. If to these can be added the health-giving influence of cheerful society, so much the better. These hygienic means will frequently accomplish more than our best chosen remedies. Sea-bathing has its advocates, and mineral waters, especially those which are chalybeate, are strongly recommended.

Exercise and travel.

Whatever the cause may have been, it should be removed, and the utmost pains taken to keep the patient from under the dominion of all perturbing influences. Marriage is sometimes salutary, but is of questionable utility, excepting where the attack has resulted from disappointed love.

Miss —— will take a small powder of the citrate of iron and strychnia, 3d dec. trituration, twice daily, with out-door exercise and a generous diet.

At the end of one month, the menses made their first appearance. She had much pain, with scanty flow. The second period was regular, the flow free enough, with little relative suffering. The headache and cardiac symptoms had entirely disappeared; the skin became natural; the lips and cheeks had resumed their proper color. She took no other remedy.

LECTURE VII.

AMENORRHŒA.

Amenorrhœa.—Delayed menstruation—Etiology of—Symptoms of—diagnosis—prognosis and treatment—Suppressed do.—etiology. *Case.*—Symptoms, diagnosis and treatment. *Case.*—Special indications for remedies—*Retention of the menses*,—etiology, symptoms, diagnosis, prognosis and treatment, both medical and surgical.

During menstrual life, or between the ages of fourteen and forty-five, in this country, there are only two conditions in which the non-appearance of the menses can be considered healthy. These are during pregnancy and lactation. Under other circumstances, if this function is not properly performed the woman is not well. There is, therefore, a physiological and a pathological arrest of this function. I shall speak only of the latter this morning.

A physiological and a pathological arrest of menstruation.

The word Amenorrhœa is used generically. It signifies a class of affections which are characterized by an absence of the menstrual flow. It includes (1) *delayed* menstruation; (2) *suppression* of the flow; and (3) *retention* of the same. Let us consider these several conditions separately.

Definition and varieties.

1.—DELAYED MENSTRUATION.

This derangement consists in the non-performance of the menstrual function, in one who has arrived at the age of puberty. It is the *emansio mensium* of the old authors, and should not be confounded with a mere suspension of the flow in one who has menstruated before; neither with tardy menstruation in the case of women who are "irregular." The young girl has reached the age of fifteen, or perhaps of eighteen, or twenty, but this function is not yet established. For some reason the first appearance of the catamenia is delayed.

Emansio mensium.

Etiology.—This irregularity is often chargeable to defective development. The epoch of puberty has not really arrived. She is yet a child. Her eye lacks expression, her manners are less sprightly than they should be, and her movements do not indicate the graceful mobility of her

Delay of puberty.

sex. Her form and features, her carriage and bodily functions, do not assume their proper proportions and characteristics. She lacks individuality. She is masculine. Her womanly traits are not matured. Her health and her fecundity are implicated by this delay, and it becomes a serious matter to study into its causes and to treat it properly. For not only does her welfare concern her individual self, but also that of her relatives, of friends, and of society at large.

Delayed menstruation may be due to organic causes, as for example, to congenital absence of the uterus, the ovaries, the Fallopian tubes, or even of the vagina. Or it may be caused by inflammatory adhesions which have taken place at an early age in some portion of the generative intestine, or outlet. In some cases it constitutes an idiosyncrasy. In certain families the establishment of this function will in every instance be delayed until the subject is fifteen or twenty years old. Its first appearance is greatly influenced by external circumstances and surroundings, education, exercise, and associations. But more frequently its delay depends upon a depraved condition of the general health. In many cases there is a developing dyscrasia, as for example, tuberculosis, which interferes with and interrupts the coming on of the menses. Weakly, scrofulous, chlorotic girls are very liable to this form of amenorrhœa; and in the great majority of cases of this kind you will note that the effect is likely to be taken for the cause. In all of them the general tone and strength are lowered, the digestion impaired, the blood is vitiated or impoverished, and there is atony, debility, and torpor of the various functions.

Congenital defect.

The sequela of inflammation.

External conditions.

Cachexiæ.

Symptoms.—It is not unusual, in this form of amenorrhœa for the patient to complain regularly each month of the symptoms that usually attend upon the flow. She may have pain in the small of the back, dragging in the loins, aching across the hips, weariness of the limbs, severe and protracted headache, malaise, anorexia, and constipation. These symptoms may come and go with the regularity of the proper "period," but without the characteristic and necessary discharge. Sometimes they are followed by a vicarious hæmor-

Symptoms minus the flow.

rhage from the nose, the eyes, the ears, the lungs, the stomach, or the bowels. Or the proper flow may be substituted by a vicarious leucorrhœa.

Complicated with phthisis.

Delayed menstruation is especially significant in girls who are predisposed to any form of phthisis. In them it implies a depraved cachexia, a low state of nutrition, and a great liability either to hæmoptysis, or to the development of a harassing cough and hectic, which are the precursors of serious disease of one or more of the respiratory organs. If such an one who has passed her fourteenth year without ever having menstruated, has a cough, or dyspnœa, habitual or frequent sore throat, hoarseness, or pain in her side, it should be regarded as a sign of ill health, and of impending evil, and measures should be immediately taken for its relief. But, you should remember, that great harm may be done in these cases by the use of "forcing medicines," which are given indiscriminately, and are designed to compel the flow regardless of consequences and of the general condition upon which the disorder depends for its cause.

"Forcing medicines" injurious.

Diagnosis.—The diagnosis is not usually difficult. As a rule (to which, however, there are occasional exceptions,) conception before menstruation is impossible. You will, consequently, have less trouble in diagnosticating this form of amenorrhœa from pregnancy than in case of suppression or of retention. In delayed menstruation from organic causes there are no changes in the physical development of the person as in puberty. The mammæ are small and rudimentary, the figure is gaunt and not graceful, and, therefore, the chief presumptive, as well as the positive, signs of pregnancy are lacking. There are no changes in the uterine cervix, or in the size of the womb, and there is no abdominal tumor, as in gestation. The lapse of time does not alter the case, or relieve it by limitation. The incidental diseases are different. The monthly cycle may or may not be recognized in either case.

Negative signs.

Nevertheless, since it is possible that a girl may become pregnant before ever having menstruated, or, indeed, after her menses have been delayed for an unusual length of time, and before their final appearance, it will

Caution.

be best for you to qualify your diagnosis. Else it may happen, after all, that the cause of the delay in the catamenia has been a very natural and common one, and that she failed to menstruate because she was *enceinte*. A careful physical exploration would enable you to decide as to the presence or absence of the internal generative organs.

Prognosis.—The prognosis may depend upon the existence of organic defects. Of course, if the uterus were absent or only imperfectly developed, you could not promise a radical cure of this disorder of menstruation. And so also of a congenital absence of the ovaries, the Fallopian tubes, or of the vagina.

Where the amenorrhœa is attributable to general ill health, or to local disease, the prognosis will be that of the dyscrasia, or of the disorder, of which in reality the absence of menstruation is but a sequence and a symptom. We must weigh the chances of recovery from scrofulosis, tuberculosis, gastro-alimentary disease, pleurisy, and morbid conditions and alterations of the blood. In other words, both with respect to the prognosis and the treatment, we must remember that our patient "is not sick because she does not menstruate, but that she does not menstruate because she is sick."

An old and true maxim.

Treatment.—When you are consulted in a case of this kind you should not be inveigled into prescribing at random and indiscriminately. For many of these cases do not need any medicine whatever. If the patient is well in other respects, healthy, hearty, with a good appetite, and nothing to complain of, except that, as her mother or friend will tell you, she "has seen nothing," it is best to recommend fresh air and plenty of it, sunshine, cheerful society of a mixed kind, travel, a change of scene and surroundings, diversion, to take her from boarding-school, and afterwards to let Nature take care of herself. If she remains well, (and she may do so for months or years,) she will be better without medicine than with it. It is time enough to prescribe your pellets and powders for her when she can make a positive complaint of suffering and ill-health.

"Let well enough alone."

But if, on the contrary, the incipient signs of serious disease begin to crop out, you must anticipate and avert its full development. For by so doing you may, perhaps, ward off a threatening phthisis, or may save your pa-

Anticipative treatment.

tient much of suffering from other diseases, and really prolong her life. The more chronic and complicated the original affection, the more difficult will be the cure, and the greater the need of perseverance on your part.

2.—SUPPRESSED MENSTRUATION.

A practical distinction.

I have already said that a practical distinction should be made, and borne in mind, between suppression and retention of the menses. This distinction is based upon the fact that menstruation, like other secretory and excretory functions, includes two distinct processes, *viz.:* (1.) the secerning, or exhaling, of the elements of a particular fluid from the blood; and (2) the pouring out, or escape of that product through a natural duct or outlet. Suppression of the menses concerns the former process exclusively. It relates to ovulation, and to its contingent secretion from the uterine mucous membrane. It is the *amenorrhée radicale* of Raciborski. When, after having been established and maintained for a longer or shorter period, this function ceases for other reasons than because the woman has become pregnant, is nursing her child, or has passed the climacteric, (unless there is an obstruction of the uterine cervix,) we say that she has menstrual suppression.

Here is an interesting case, the notes of which have been taken by our clinical assistant.

Case. — "About four weeks ago, Miss ——, aged 20, (late a resident of England,) applied at the College Dispensary for relief from the following symptoms: Cessation of the menses for the past four months, constant frontal headache, severe sacral pains, pains extending from the sacrum to the scapulæ, occasional œdema of the feet and ankles, pains occasionally running down the limbs, vertigo on going into the open air, and obstinate constipation. At times, also, she says that she has pains from one hip to the other. There is no leucorrhœa, and no epistaxis. She states that her mother died at the age of thirty-seven years of consumption, and that eight of her own sisters have died at about twenty-one years of age, after a short illness, presenting the same (or nearly the same) symptoms that she has detailed to me.

"As far as I can learn, there is no hereditary disease on the father's side. At the time of their decease, none of the eight

sisters who died presented any obvious symptoms of consumption, but all of them seemed to drop off after suffering a short time as this patient suffers. One year ago she was cured in Bristol, England, of suppression of the menses of seven months' duration. I have prescribed for her three times without relieving anything more than the headache, and am led to believe that there must be a mechanical obstruction to menstruation (probably malposition of the uterus). Excepting a slight flush of the face, which is constant, this young woman presents no outward symptoms of internal trouble, and were it not for her strange story, I should, perhaps, be suspicious of pregnancy. The remedy which relieved the headache was apis mellifica, but after four days that had no effect."

This patient had menstruated before, and could not therefore be suffering from delayed menstruation, as we have just described it. She may have retention of the flow, in consequence of some uterine deviation, as the doctor suspects, but it is hardly probable that each of her eight sisters had amenorrhœa from this cause, and all at the same age. The very fact that their disease developed at this particular age renders it almost certain that they were the victims of tuberculosis, inherited from the mother, and that the menstrual suppression common to them all arose from this dyscrasia as a common cause. For it is not unusual for all, or nearly all, the daughters in a family in which phthisis is hereditary, to have this disease in a fatal form, when they are twenty to twenty-three years old. And amenorrhœa (*suppressio mensium*) almost always accompanies it.

Hereditary tendency to suppression.

Suppression of the menses is more common than either of the other forms of amenorrhœa. The busy practitioner has to prescribe for it every day. It may come on suddenly, or gradually and almost imperceptibly. The healthiest and most vigorous women, and especially those who are somewhat plethoric, are more likely to have it occur abruptly. Leuco-phlegmatic and fleshy women are prone to a gradual lessening and final arrest of the flow before the climacteric has arrived.

Course and frequency.

Etiology. — The causes of suppression are numerous and varied. Perhaps the most frequent is exposure to cold, as in getting the feet wet, walking, sitting or sleeping in damp clothing, improper and extreme change of dress,

Avoidable causes.

as in leaving off the warm wrappings and flannels of winter, and substituting a thin party or ball dress. Taking a cold foot- or sitz-bath just before or during the flow is a very common cause of suppression. Emotional states often induce it. Among them are fear, fright, anxiety, mental depression, excess of mental application, the receipt of good or bad news, or solicitude for a sick friend, incompatibility in the marriage relation, the worry attendant upon being a witness at court, and confinement in prison.

Incident to acute disease.

Suppression is incident to attacks of fever, and of local inflammation, more particularly to ovaritis, endo-metritis, pleurisy, pneumonia and enteritis, to the presence of polypi, fibroids, hydatids and moles. It is often due to change of climate. One of my patients has had it for three months at a time while visiting the Rocky Mountain region.

From change of climate and travel.

Another, and without any harmful consequences, every year at the White Mountains. Taking a sea voyage may have the same effect. A large proportion of the female emigrants arriving in New York have this form of amenorrhœa, which may persist for months after landing. It may also arise from chlorosis, anæmia and plethora.

From an idiosyncrasy.

It is a species of idiosyncrasy with certain women, now and then to have the function of menstruation suspended for a longer or shorter time, and afterwards resumed again.

From trivial causes.

The slightest forms of indiscretion at the month may suffice to arrest the flow. Taking a drink of ice-water, eating a little ice-cream, or indigestible food, or being too much upon the feet at the time, may cause it. Hewitt has had occasion more than once to observe "that women are liable to have the menstrual discharge suspended for one or two periods after first going to reside in a house, the staircases of which are of stone and uncarpeted, their previous residence having had a wooden staircase only."*

From chronic disease.

Chronic and habitual suppression is incident to advanced stages of consumption. In some cases, however, it characterizes the disease in its incipiency, and may be one of its first symptoms. You will be consulted for the

* The Diagnosis and Treatment of Diseases of Women, by Grailly Hewitt. London, 1863, p. 44.

relief of this symptom in young women in whom it is supposed to be the chief and perhaps the sole cause of their ill-health. On proper inquiry, you ascertain that the patient has a slight, dry, hacking cough, without expectoration, but which is aggravated by exercise. She complains of stitching, lancinating pains in the chest, and dyspnœa from the slightest exertion, more particularly on ascending the stairs. She is easily fatigued, weak, and has lost all relish for substantial food. She has become emaciated, has lost in weight, and is more pale than usual.

These symptoms may have existed for a considerable time and developed insidiously, without creating any suspicion of disease of the lungs. But if you are observing, you will note the order in which they made their appearance; you will learn that, in the majority of cases, the pectoral disorder has preceded the menstrual irregularity. In other words, the tubercular deposit, or the pneumonia, was idiopathic, while the amenorrhœa is secondary or symptomatic.

Insidious complications.

Under these circumstances, the blood becomes deteriorated in quality, in consequence of its imperfect aeration and of impaired nutrition. All the glandular functions are implicated. The ovaries, as well as the mesenteric glands, become diseased, and, if they perform their duty at all, do so but very irregularly and imperfectly. If the blood is too poor to furnish the proper elements for the gastric juice, for example, it may be unfit to stimulate the changes that should occur in the Graäfian vesicle, and which form an indispensable part of the function of ovulation.

Essentially a glandular disease.

The intimate sympathy between the lungs and the ovaries, as well as the uterus, should not be forgotten. In every case of amenorrhœa, there is more or less liability to the development of pectoral disease. In the majority, the arrest of the menses predisposes to pulmonary hæmorrhage. This is the reason why hæmoptysis is more frequent among women than among men. And this also explains the more tardy convalescence of women from pneumonia, bronchitis, pleurisy, and even from pericarditis and endocarditis.

Ovario-pectoral sympathies.

In many cases the pectoral symptoms and those of scanty or suppressed menstruation alternate. Or, with each return of the month, there may be a serious struggle, so to speak, between the

lungs and the uterus. Here is a case in point, to which I was called last evening:

Case.—Miss ——, aged 20, has complained since leaving boarding-school, two years ago, of a harrassing cough, which never troubles her at any other time excepting at the month. Its coming on is the precursor of menstruation, and she is satisfied that, if she were to lose record of the time in which her catamenia were due, she would certainly be notified of the same by this cough. It anticipates the flow by some six to twenty-four hours, and subsides as soon as the discharge comes on. The longer the delay of the menses, and the more scanty the flow, the worse the cough.

Another cause of menstrual suppression was first recognized and described by the late Prof. Simpson. It consists in what he styled super-involution of the uterus following labor. This abnormality depends upon a species of marasmus, or excessive absorption of the uterine tissues after delivery, whereby the organ may be reduced to one-third of its natural size, and the proper exhalation of the menstrual blood from its mucous surface is rendered impossible. It is believed that in these cases the said textures undergo a fatty metamorphosis, and finally become atrophied and shrunken, as in the senile atrophy of those women who have passed the climacteric. Such an organic change would give rise to permanent arrest of the menses, and, although comparatively rare, might follow any case of labor, whether premature or at term. Sub-involution, or deficiency of absorption, following pregnancy and parturition, is, however, as I shall have occasion to tell you hereafter, much more frequently met with. It is intimately related to the clinical history of uterine obliquities.

Super-involution of the uterus.

Symptoms.—The most prominent symptom is the characteristic absence of the menstrual discharge, which is itself a symptom, and not a disease *per se*. All the attendant signs signify that some portion of the internal generative apparatus, more particularly the uterus and the ovaries, as well as the general nervous and vascular systems, are in an abnormal condition. Weakness, lassitude, aching, constant fatigue, lack of interest in family or social matters, indigestion, constipation, headache, cardiac oppression, palpitation, breathlessness, fickleness, peevishness, fugitive neuralgic

Nervous and vascular systems deranged.

pains, hysterical developments of various kinds, accompany this arrest of function. Some women suffer from ovarian neuralgia, others from a species of uterine colic, and not a few from cramps or spasms of one or of all the voluntary muscles whenever the month comes around and they do not flow. All, except those who are really plethoric, have symptoms of asthenia, sedation, atony, debility, and general torpor of the bodily functions. They become emaciated, bloodless, almost transparent, and go into a decline which develops itself more or less rapidly according to the original state of their health and vitality. In brief, a species of cachexia, which soon becomes chronic, and perhaps incurable, follows; and being complicated with general derangement and ill health, constitutes one of the most intractable affections to which women are liable. In exceptional cases, however, menstruation may be suspended for several months, and even for years, and finally restored without any harmful consequences whatever. One of the members of our college class last year cited the case of a woman whom he had known who did not menstruate from the age of 46 to 53—seven years. She then menstruated once, and afterwards became pregnant, and was delivered at term of a healthy living child.

The amenorrhœal cachexia.

Diagnosis.—You will have more trouble to diagnosticate suppression from pregnancy than from any and all other conditions. This difficulty is increased by the fact, that in forming a judgment in a given case, prior to the fourth month, we are left entirely at the mercy and caprice of the patient. She may tell us that she has incurred no possible risk of becoming pregnant, when such is not the truth. Or, if she is anxious to become a mother, may insist that nothing but conception could have caused the arrest in her case, for she was never irregular before. Too exclusive a reliance upon her word may mislead and deceive us; but in the first three months, there is little else upon which to predicate an opinion. The reflex and incidental symptoms, as nausea, loss of appetite, morning sickness, swelling of the breasts, are the same. Whatever changes occur in the uterine textures in consequence of impregnation begin in the body and fundus of the womb. We cannot reach or recognize them before the commencement of the twelfth or thirteenth week. Subsequent to that period, however the more unequivocal signs of

From pregnancy.

pregnancy begin to develop, and the diagnosis is more easy and certain. In doubtful cases, *time* will help you to differentiate between a physiological suppression of this sort, and one which is in every sense pathological. When complicated with retention, you may even have to wait until the fifth or sixth, or possibly the ninth, month before you can say with certainty whether the arrest of the menses was due to conception or to some accidental or morbific cause.

Time.

In simple suppression, however, there is no permanent and continuous abdominal development, no tumor, as in retention or in pregnancy.

It will sometimes be difficult to decide whether the non-appearance of the flow is or is not due to the "change of life." The age of the patient, and inquiries into her family history may help to settle this question. If she is past forty, the irregularity may be due to her age, although women do sometimes continue to menstruate much longer.

From "change of life."

One of my patients was "regular" until her death, which occurred in her sixty-second year. If the patient's mother and sisters ceased to menstruate as early as thirty or thirty-five, it might modify your diagnosis. Usually, if the suppression is from a morbific cause, it is preceded by a failure of the general health, and each month the patient complains of symptoms which pertain most decidedly to the return of the old habit. But, when the climacteric has been reached, and the arrest of the flow is chargeable to a physiological arrest of function, the ill health, if there is any, follows the change, and the monthly exacerbation does not recur.

Treatment.—You have, doubtless, drawn the proper inference with respect to the treatment for this form of amenorrhœa. Cure the original, idiopathic disease upon which this suppression is secondary, and, in the great majority of cases, if there be no organic obstacle, this particular function will be reëstablished. Or as Dr. William Hunter worded it in his Lectures, "With regard to the management of the menses, my opinion is, that you should pay no regard to them, but endeavor to put her to rights in other respects. If you cure the other disorders, you cure the irregularity of the menses, *which is the consequence and not the cause of her complaints.*"

A cardinal rule.

If the suppression is due to chlorosis, ovaritis, metritis, incipient tuberculosis, pneumonia, pleurisy, gastritis, hepatitis, rheumatism, or any other abnormal condition or diseased process, the indication presented is to cure the primary affection, after which we may reasonably expect the secondary one to disappear. Fortunately we find that remedies are possessed of corresponding relations to the various functions. For not only are the bodily organs linked in sympathy and susceptibility, but these sympathies and susceptibilities have their counterpart in the curative range of our remedies. The different sections of a correct and complete pathogenetic record are as intimately related as the several cantos of a grand old poem.

Emmenagogues.

If, therefore, you shall find that the remedy which is manifestly indicated for the cure of the complaint upon which the amenorrhœa is secondary, is also applicable in case of menstrual suppression, so much the better. But, as between prescribing pulsatilla, or senecin, or any of our medicines as emmenagogues merely, or iron, secale cornutum, and aloes in ponderous doses with the same end in view, there is really no difference. Both methods are unphysiological and harmful.

For pectoral complications.

Abundant experience has satisfied me that the calcarea carbonica is, perhaps, the most prominent and useful remedy for the relief of those menstrual irregularities which are incident to pectoral disease. It seems especially appropriate to complicated cases of pulmonary and uterine disorder in weakly, ill-conditioned females of a scrofulous diathesis, with amenorrhœa, an impoverished state of the blood, and a depraved condition of the nutritive system.

For suppression alternating with ophthalmia.

Pulsatilla is indicated in women with light hair and blue eyes, who are weakly, pale, and delicate, of mild and amiable disposition, and who are tearful and prone to melancholy. It is sometimes an excellent remedy in case of menstrual suppression complicated with ophthalmia. My attention was called to this fact some years ago by my excellent friend the late Dr. Lyman Kendall, of this city, who related the following

Case. — Mrs. ——, aged 32, had suffered frequent attacks of amenorrhœa, which persisted for from three to six months at a time. The suppression came without any apparent cause, and

the return of the flow did not seem to be influenced in the least by any medicine which she could take. Her general health was good. She had never been sick in bed, and suffered no ill consequences of the amenorrhœa, excepting an intractible and troublesome inflammation of the eyes. Upon inquiry it was found that this inflammation came and went regularly, alternating with the amenorrhœa. When the catamenia were prompt and regular the conjunctivitis disappeared altogether; but when they were suppressed, the eyes became inflamed again. There was redness and swelling in the lids, lachrymation in the open air, and irritation and pressure as from sand in the eye. Pulsatilla 6, cured both these affections promptly and permanently.

Since almost any of our remedies may be indicated in special cases, I will cite the more prominent among them as they are related in a curative way to the various causes of amenorrhœa:

From taking cold.—Belladonna, gelsemium, pulsatilla, dulcamara, chamomilla, caulophyllin, or macrotin, gelsemium, sepia, sulphur, rhus tox.

From check of perspiration.—Cuprum, chamomilla, aconite.

From changes in the weather, cold and dampness.—Dulcamara, rhus tox., rhododendron, nux mosch., pulsatilla.

From taking cold by getting the feet wet.—Aconite, pulsatilla.

With leucorrhœa and constipation.—Alumina, natrum mur., sepia, graphites, collinsonia.

From fright or chagrin.—Aconite, lycopodium, coffea, opium veratrum vir.

From atony of the uterus and ovaries.—Aletris far., caulophyllin, helonias.

From mental causes.—Aurum, cimicifuga, lycopodium, ignatia, veratrum alb., aconite, pulsatilla.

From defective nutrition.—Aletris far., natrum mur.

With congestion of the head and face in plethoric women.—Glonoine, aconite, belladonna, gelsemium, sabina, sulphur, opium.

With eruptions here and there, oozing out a sticky fluid.—Graphites.

With eruptions when the menses should appear.—Carbo veg., dulcamara.

With prolapsed or ante-verted uterus.—Lilium tigr., collinsonia.

With spitting and vomiting of blood at the menstrual period.—Phosphorus, belladonna.

With corrosive leucorrhœa in place of the menses.—Ruta grav., silicea, sepia, arsenicum, cocculus.

When the menses are suppressed immediately on their appearance, returning again to be again suppressed, intermitting menstruation.—Sabadilla.

In thin married women, with forcing pains in the uterus.—Secale cor., caulophyllin.

With nervous headache and hysterical affections, with cold hands and feet.—Veratrum alb., macrotin.

With painful pressing down as if the menses would appear.—Platina, belladonna.

Chlorosis, with bloated, waxy face.—Apis mel., arsenicum, mercurius, plumbum.

With pain in the ovaries just before or during menstruation.—Apis mel., phytolacca.

In young girls with a tendency to bloating of the abdomen and of the extremities.—Apocynum.

With epistaxis.—Sulphur, bryonia, veratrum alb.

With a frequent tendency of the blood to the head, with vertigo and buzzing in the ears.—Calcarea carb., china, ferrum.

With pale face, blue margins around the eyes, and headache with nightly aggravations.—China, cuprum, ferrum.

With cardiac palpitation and spasm.—Cuprum, lachesis, cimicifuga, apis mel., nux mosch., bryonia, kali carb., iodium, lilium tig., causticum, or aconite.

With rheumatism or neuralgic pains in the head and face.—Gelsemium, macrotin.

With indigestion.—Kali carb. for sour eructations, with fugitive shooting, abdominal pains; nux vomica, arsenicum alb., podophyllin, nux mosch., lachesis.

For retarded or suppressed menstruation.—Dr. Holcombe* extols the value of senecin in the first decimal, or the first contesimal trituration for cases of this kind. He gives a powder every night for four months.

With obstinate constipation at the month, with a discharge of

*The United States Medical and Surgical Journal, Vol. VIII., p. 44.

almost clear water in lieu of the menses, and an *acrid, corrosive leucorrhœa*, silicea.

With *abdominal tympanites*— Belladonna, phosphoric acid, chamomilla.

With *dropsy*— Apis mel., for incidental anasarca, swelling of the feet, puffiness of the cellular tissue; helleborus, for abdominal dropsy, with scanty flow of dark-colored urine; arsenicum. Dr. G. W. Barnes* reports "invariable success with apocynum can. in quite a number of cases of amenorrhœa in young girls, attended with bloating of the abdomen and extremities." He also had "good success with it at least in one case of this disease in which the latter symptoms were not marked."

With *chorea*, *hysteria*, etc.— Belladonna, gelseminum, pulsatilla, macrotin, hyoscyamus, coffea, ferrum cit. et strychnia (in the 3d dec. trit.), cocculus, cuprum, causticum.

I am aware that these hints are more suggestive than satisfactory. Their chief value consists in the possibility that they may help you to decide between two or more remedies which, otherwise, might seem to be equally appropriate, and in this manner serve a good purpose. As a rule, however, in functional amenorrhœa, which is consequent upon different morbid states, whether they are acute or chronic, the symptoms proper to those conditions, and which would be your guide if there were no suppression, will indicate the remedy or remedies that are especially indicated.

A practical hint.

But if the suppression is idiopathic (which is comparatively rare), you will naturally seek to stimulate the functional activity of the ovaries, and of the uterine mucous membrane. This may be accomplished without the use of harsh emmenagogues. Pulsatilla, sepia, calcarea carb., podophyllin, apis mel., natrum mur., ferrum, china, phosphorus, sabina, sulphur, platina, or, among the newer remedies, senecin, collinsonia can., and the asclepias in., are sometimes given with excellent result. Dr. C. D. Williams reports some remarkable cures with xanthoxylum.‡

For idiopathic suppression.

* Hale's New Remedies, 1867, p. 83.

‡ United States Med. and Surg. Journal, October, 1871, p. 35.

The general treatment is sometimes even more important than the special. In the temporary suppression which frequently follows marriage, a single coitus, or change of climate and occupation, if you are careful not to overdo in the matter of dosing, and will take pains to correct the patient's habits, the function will regulate itself. In every case, she should take the fresh air daily. Walking, or riding in the sunshine, cheerful society, keeping the feet warm and dry, diversion, and a proper and nourishing diet, are useful auxiliaries towards a cure. They will help to restore the vital conditions which are inherent to this function, and indispensable for its proper performance. And they will also fortify the system against a degree of asthenia which is quite incompatible with ovulation.

General treatment.

In those who are predisposed to an arrest of the menses great care should be taken at the month lest a slight indiscretion or exposure induce it. With some women all that is necessary is for them to lie down and keep tolerably quiet and passive for one or two days. In others the flow will need prompting by appropriate internal remedies given in anticipation thereof; by the foot or sitz-bath; by an enema of tepid water thrown into the rectum; or by the introduction of the sponge-tent through the uterine cervix some hours, or perhaps the night before the flow is due. In some cases the passage of the uterine sound, or probe (which, if there is no uterine deviation, is not difficult at this period), may, by irritating the os uteri, produce the same effect. The habit of taking spirits, as gin or whisky, and hot drinks, herb teas and the like, should not be encouraged, for the indirect effect of such palliatives is to unhinge the nervous system and to increase the difficulty.

At the month.

3. — RETENTION OF THE MENSES.

In this form of menstrual irregularity there is a preternatural obstacle to the escape of the flow. Ovulation has been properly performed; the secretion or exhalation of the menstrual blood from the uterine mucous membrane has been poured into the cavity of the womb, but there is no outlet for it. Either the canal of the uterine cervix, or the vagina, or both these portions

of the generative intestine, are closed, and there is no means of escape for the periodical discharge.

Etiology. — Menstrual retention may be caused by atresia of the cervix uteri, resulting from post-partum inflammation or from cauterization; spasmodic closure of the os internum; flexures and obliquities of the womb; the presence of polypi, or of coagula, which serve to obstruct the passage; atresia of the vagina; or closure of the same by an imperfect hymen. In exceptional cases it may be due to a species of uterine inertia. Here the flow exudes passively, but the condition of the patient's general health is so low, and the uterine fibre is so irresponsive to ordinary stimuli, that the peristaltic action of the womb is not aroused as it should be. The force that is designed to unlock the internal os and to expel the menstrual product is not called into exercise. The secretion is lodged, and there is no "show."

Accidental causes.

Symptoms. — In this class of cases, the menstrual molimen is more or less pronounced. The symptoms are those which accompany normal menstruation, always excepting the sanguineous flow from the vulva. Pains in the back and loins, around the pelvis, and down the thighs and limbs, bearing down and fullness within the pelvis, forcing pains, which are aggravated by standing or walking, headache, malaise, chills, nervous tension and perturbation, and sometimes dyspnœa, and diarrhœa or dysentery, recurring with some degree of regularity, may lead the patient to suppose the discharge is coming on. After a longer or shorter interval, however, these symptoms subside, and the effort to establish the flow has proved abortive. This state of things may continue for months, and even for years, to the manifest detriment of the general health.

The form without the flow.

Diagnosis. — Proper retention of this flow can only occur in those who have menstruated before. For this reason, it could not be readily confounded with, or mistaken for, Delayed Menstruation. The repeated efforts to expel the secretion, at each return of the monthly cycle, the kind and degree of suffering experienced, and the special clinical history of the case, would help you to differentiate between this form of menstrual derangement and a case of suppression, and also to diagnosticate it from "change of life," and from pregnancy.

Prognosis.—The prognosis will vary with the cause of the disorder, the age of the patient, and the condition of the general health. Other things equal, a recent case is more promising than a chronic one. If the blood has become deteriorated in quality, either from depraved nutrition or from the resorption of post-organic matters confined in the cavity of the uterus, more serious consequences are to be apprehended. Or if, in consequence of the damming up of the discharge, the ovaries have become seriously diseased, we would not promise a prompt and radical cure to follow the restoration of the menses. For in exceptional cases the removal of the obstacle to the menstrual discharge, whatever it may have been, fails to re-establish this very important function.

Treatment.—The prime indication is to remove the cause of the retention. Atresia of the cervix can usually be overcome by the careful and persistent employment of the uterine sound, or probe, Priestly's or Atlee's dilators, Simpson's ebony bougies, and the sponge tent. In rare cases the hysterotome may be requisite. I could cite many cases in which these means have cured retention of the menses due to atresia of the neck of the womb, occurring as a consequence of lying-in, and of excessive cauterization.

Surgical means.

When the trouble depends upon spasm of the internal os-uteri, the same dilatation may be necessary, but it should be conjoined with such internal and hygienic treatment as is suited to overcome the tendency to local and general spasms. Here you will need to counteract the hysterical bias of the patient, and to place her under conditions which favor recovery. The topical and general use of electricity promises to be of great value in this particular class of cases.

Dilatation, etc.

If the uterus is bent, or twisted upon itself, proper means must be taken to correct and cure the deviation. The most frequent of these displacements is retro-flexion, the womb being curved like a retort, and the canal of the cervix obliterated at the point at which the body of the organ is bent upon its neck. These cases are very tedious, but if you are really skilful, you will succeed in curing a large proportion of them.

Reposition of the uterus.

Polypi and coagula are to be removed by excision, and by dilatation of the canal of the cervix. Atresia of the vagina will

require a careful dissection of its adherent mucous surfaces, after which the freshened edges must be separated either by an oiled tampon or Sims' dilators, until they are healed. If the hymen is imperforate, it must be divided in order to discharge the contained fluid. The old plan was to make a crucial incision into this septum in such a case; but, serious results having followed the too rapid evacuation of the fluid, modern authorities advise that the cut shall be valve-shaped instead.

Incision of the cervix, and of the hymen.

FIG. 20. Sims' Vaginal Dilator.

If the retention is referable to uterine atony, the general health must be built up and fortified, and local excitation and stimulation of the womb secured by electricity, bathing, frictions along the spine, and the use of remedies suited to the especial and incidental symptoms, whatever they may be.

LECTURE VIII.

AMENORRHŒA—CONTINUED.

Amenorhœa, with prolapsus uteri and obstinate vomiting. Case.—Resembling perforating ulcer of the stomach—reposition of the uterus,—subsequent history.—Note.—*Amenorrhœa with choreic spasms. Case,*—remote disease from an arrest of the menses,—"forcing the flow,"—effect of rest and quiet,—*Amenorrhœa with supra-orbital neuralgia. Case,*—varieties of menstrual neuralgia,—local and specific treatment.—*Spinal irritation with amenorrhœa, convulsions, etc. Case.*—*Amenorrhœa in advanced phthisis. Case.*

We will continue the study of amenorrhœa. The notes of the first case concern one of my private patients, and were written by the woman herself. The case is one of

AMENORRHŒA, WITH PROLAPSUS UTERI AND OBSTINATE VOMITING.

Case.—I am 22 years of age, and married; have been ill with an intractable gastric difficulty at intervals for six years. This affection first manifested itself after a severe attack of diarrhœa, which was followed by spitting up of the food while it was partially digested, or still unchanged. This symptom used especially to trouble me in the evening, after supper, but sometimes followed the other meals also. Coffee, pastry, and all rich food, new vegetables, and many kinds of fruit, were the first articles to be rejected by my stomach. Consequently, my diet was reduced to meat and bread. For a time all kinds of fresh meat were well borne, but finally beef-steak was the only one that would be tolerated.

The first attack of this indigestion came on late in the summer and continued for several months. It returned the next year at the same season, and lasted until the middle of the following winter, being accompanied by three months of suppressed menstruation. These combined troubles occasioned severe headache, and bloating of the stomach and the abdomen. However, I rapidly gained in flesh, which was soon lost when the menses returned. The next season I derived much benefit from a residence of nine months in Saratoga. After drinking its waters I returned home with my disease apparently cured. Two years of comparative health followed, with occasional symptoms of the old trouble, which were generally relieved by the regulation of my diet.

The third attack was preceded, accompanied and followed by

bilious fever and dysentery, with which diseases I was very ill for several weeks. The gastric difficulty did not leave as usual in the winter season. The symptoms continued for more than a year, the nausea and vomiting increased in frequency and violence, and were accompanied by great acridity of the matters ejected, distress and burning. I could compare the feeling which predominated to no sensation except to that which would be produced by many pieces of apple-core moving about in the stomach. Constipation and bloating of the abdomen were constant symptoms. Medicine seemed powerless; one article of diet after another was abandoned; my strength gradually decreased; I became nervous; my nights were wakeful, with unpleasant dreams, and a dumb ague at last set in. Meat and other solid food could not be tolerated by my stomach, and soon the entire system yielded to utter prostration and debility.

The region of the stomach now became very hard to the feel, but extremely sensitive to the touch. For seven months menstruation was entirely suspended. From September to the middle of December, I became weaker and weaker. I then began gradually to improve, but the vomiting continued nearly every day for about four months longer. For six months I had eaten no solid food whatever, but had subsisted on porridge and farina. For two months I lived exclusively on milk, and a weak strained broth.

The first discharge of matter or pus by vomiting took place in September, and from that time on I continued to raise it. In November this matter became more copious, and was thrown up as often as every hour in the day. The most abundant of these discharges of pus were preceded by sinking spells, with difficulty of breathing and numbness. Beside this matter there was also vomited a clear fluid which made the throat, mouth and lips burn and smart severely. But a thick froth resembling the beaten white of an egg, generally accompanied the pus.

Intense nervousness, wakeful and often sleepless nights, and severe pains in the head, and also in the back and hips, racked my delicate constitution terribly. For six months, with but a few exceptional days, the vomiting spells followed each other every one to six hours. I was entirely confined to my bed for four months.

This was the condition in which I found this patient on my first visit. She was a bride of a few months. Her husband and family were extremely solicitous concerning her, for, excepting that at times she had a rosy English complexion, she really appeared like one who could not live very long. Further examination of the case from time to time, as she could bear it and as opportunity offered, elicited the following additional symptoms:

A large portion of the time, during which she suffered from these attacks of vomiting, the appetite was craving and almost ravenous. This was accompanied by extreme depression of spirits. For several months after the vomiting came to be of almost daily occurrence, there was little or no loss of flesh, the cheeks were red and the eyes bright as in perfect health, but the complexion had a peculiar bluish hue, especially in the morning. The feet and hands, which at other times were almost as cold and colorless as marble, became hot and burning. The perspiration had a strong, disagreeable odor. This odor was especially bad when the vomiting of pus was most frequent and copious. For many weeks the stomach was so sensitive that she could tell the moment the food entered it, and in what part of the organ it was lying. A marked and peculiar feeling for months prior to her illness was that of a sharp distress (the "apple-core" sensation) just at the entrance to the stomach. This was accompanied by a feeling of faintness from lack of food, which eating only increased.

Each of these attacks was characterized by a more or less prolonged arrest of the menses. She also complained of weakness and lameness in the small of her back and hips, with dragging down sensations, occasional dysuria and obstinate constipation.

My first impression of the pathology of this case was, that it was one of perforating ulcer of the stomach, and, as you may suppose, my prognostications were very cautiously given.

Prolapsus the exciting cause.

My second visit disclosed the menstrual complication, and the third interview decided me to request an examination per vaginam. It was accordingly made. I found the vulva in a state of hyperæsthesia, with considerable constriction of the vaginal orifice. The uterus was prolapsed upon the floor of the pelvis, and exquisitely tender to the touch. After a little delicate manipulation this organ was lifted as far toward the superior strait as possible, and the patient directed to lie for the most part upon the left side. I prescribed nux vomica[3], a dose to be taken every three hours.

The next morning her pelvic and sacral pains had vanished, the headache was relieved, the vomiting had been less frequent, and she was hopeful. In brief, she kept to her bed for about three weeks more, on account of the prolapsus, and also of the menstrual flow, which returned within a fortnight. Once in four or five days the womb was restored, in case it had fallen, with the index finger. Calcarea carbonica[3] was the only remedy that she took after the

Effect of replacing the womb.

first few days, excepting caulophyllin and coffea, which were given incidentally to promote rest and sleep. Menstruation soon became regular and normal in every respect. The gastric difficulty lessened until almost any kind of food could be taken, relished and retained. Her "dumb ague" disappeared, and her old flow of spirits returned. In a few weeks her health was perfectly restored. In six months she became pregnant, and now she has a bright, healthy child, which is about a year old. She passed through gestation without any morning sickness or vomiting; and through labor and lactation with no untoward or unusual symptoms. Two years have elapsed and there has been no return of her disease.

Subsequent history.

My object in reporting this case is not to reflect upon either of the physicians who preceded me in its management, but to make a few practical points that will be available to you bye and bye as practitioners. The first of these is that your skill in diagnosis, and your success in treatment will depend upon the thoroughness with which you examine and analyze the case in hand. Much has been said of the importance of the "totality of the symptoms" as the basis of treatment. In a knotty, complicated case like this, the "totality of the symptoms" includes a great deal. It classifies and arranges the gastric, the alimentary and the nervous symptoms as the more prominent and suggestive; but it is found that those physicians who claim to prescribe in accordance therewith are very apt to overlook the menstrual and uterine complications, or, at least, they do not always give them their due prominence. And this fact explains some of their failures. For if we should place undue stress upon the character of the matters ejected, or the frequency and other peculiarities of the vomiting, as interpreting the nature of the disease, and as indicative of the remedy, which is characteristic and most appropriate for its relief — the result would be that our pathology would be at fault, and our therapeutical progress would take the wrong direction.

Practical points.

"Totality of the symptoms."

In a case of this kind it is sometimes very difficult, and even impossible to decide which class of symptoms is really the most significant. If our judgment concerning them is based upon their objective consequences, and

The cardinal symptoms.

not upon their subjective cause and relation, we shall be very apt to declare in favor of the former. Hence, it frequently happens that the most clamorous signs get the credit of being characteristic and sufficient when, in fact, they are not so.

This is a case in point. The uterus was badly prolapsed, and evidently had been each time that she had suffered from the gastric derangement. The cause of her illness was mechanical and, while it acted, was constant in its operation. The reflex functional disorder of the stomach was so severe and long-continued that it finally developed into an undoubted ulceration of that organ. But even when the symptoms connected with that ulceration were at their worst, there was nothing distinctive in them either as to the cause of the difficulty, or the best mode of curing it.

Practical deductions.

The second proposition is that while we are careful not to exclude some of the symptoms arbitrarily, or through neglect, we should not exalt others to an unmerited prominence indiscriminately, and without good reason. The uterine deviation and the menstrual arrest were the cardinal peculiarities of the case under review. When they were relieved the more remote gastric symptoms disappeared. Now it would not be safe to conclude and to insist from this that pessaries and emmenagogues are the best means of cure in a case of ulceration of the stomach with similar vomiting; neither to declare that these symptoms are invariably due to the same, or to any remote cause, whether sexual or otherwise. It is the inference we deduce, and the lesson we learn from such an experience that interests the profession, and our patients also. It is the physician's tact in taking hold of the right thread that enables him to unravel the tangled skein of disease.

Must give due weight to proper symptoms.

Also to proper clinical influences.

And whoever, in a case of utero-gastric disease, can tell which is the primary lesion, and which is the secondary one; which symptoms are first in importance, and which are not; will have a key to the choice of the treatment proper to these compound cases which he could not otherwise obtain. Starting from this point, he may select the remedy or remedies, surgical or medical, by a reference to his experience, to his library, to his materia medica, or through a

Key to success.

species of "unconscious cerebration;" but he will gain his object more speedily, safely and surely than if he took a less comprehensive view of the case, and always persisted in beginning at the other end of the series.

You will readily understand how the extreme and persistent irritability of the stomach, in a case of this kind, might finally involve the most serious consequences. When all the food that is swallowed is rejected, and the vomiting is so nearly constant, it is impossible for the patient to be properly nourished thereby. Her assimilative functions are sure to be impaired. The digestion, the circulation, respiration and innervation cannot escape. And thus the general health will be undermined. Organic disease will be the indirect consequence, and prostration, debility and death may follow.

Ill effects of excessive vomiting.

Indeed the diseases of any portion of the gastro-alimentary mucous membrane are more serious when complicated with uterine and menstrual disorders than when they do not co-exist. For this reason, in women, the worst cases of intestinal derangement, and indigestion, constipation and diarrhœa are those which are complicated with intra-pelvic difficulties of various kinds, as for example, uterine displacements, ulceration, chronic cervicitis, ovaritis, menstrual retention, leucorrhœa, and menorrhagia. The remoteness of these several lesions, — which complicate even when they have not caused the alimentary disorder, and the absence of any very prominent signs of uterine or ovarian trouble, may lead to their being overlooked as prime factors in the case. If we add to this that a proper physical examination of the pelvic organs is usually the last thing to be thought of under these circumstances, you will see how it is possible for such complicated diseases to resist treatment, and finally terminate fatally.

Serious nature of utero-gastro-alimentary disorders.

These cases vary so much, and are so unlike, that one description will not answer for them all; nor will one kind of treatment cure them indiscriminately. Whatever the nature of the indirect cause, its effect should be counteracted by its removal. Possibly not one in a hundred cases of chronic and persistent vomiting may depend so directly as this upon uterine displacement. But

the fact that it may happen should not be forgotten, for the very case to which you are called may be one of this kind.

Nor need there be any clashing or mischievous interference on account of what may be termed the surgical and the medical indications sometimes presented by the same case. The uterus can be reposited, its cervix dilated, or the os uteri medicated topically, if needs be, while the constitutional treatment, based upon other and different indications, is still being pursued. *

Surgery and medicine not antidotal.

AMENORRHŒA WITH CHOREIC SPASMS.

This case illustrates the relation of the nervous system to the function of menstruation. Sometimes it is next to impossible to say whether the menstrual trouble has preceded or followed the nervous derangement. But careful study will help to decide this very important question.

Case.—Miss——aged 19, of full habit and general good health, is almost never ill. Her mother says that four days ago, on Sunday last, she took cold while in attendance upon the Mission Sabbath School. In consequence of this her menses were arrested, and the same evening she was seized with a severe headache, which has continued with abated violence day and night until the present time. This pain is described as acute at intervals, extending over the whole head, and aggravated by noise and light. The pupils are slightly dilated, and the face occasionally flushed. She sees objects distinctly, and is rational all the while. Since the onset of the attack, however, she has not been able to sleep more than a very few minutes at a time. Two hours ago a new train of symptoms was developed. These symptoms have alarmed the parents and friends exceedingly, and for their explanation and cure we have been consulted. Her relatives are in great dread of paralysis.

The right hand and arm commenced to jerk spasmodically, so much so that at times it became quite unmanageable. Sometimes the arm and forearm were thrown about wildly, and then extended and flexed quickly and violently. Again, the muscles of the shoulders were so severely convulsed as to threaten the dislocation of the head of the humerus from the glenoid cavity of the scapula. Occasionally, during these paroxysms, the shoulder is thrown high up alongside the head. These movements are involuntary. It is quite impossible for the patient to control or suppress them, and when they have ceased temporarily she complains of great fatigue in the affected arm and shoulder. The paroxysms recur as often as once in five minutes, and, as you will observe, are somewhat

*Ten years have passed now (1880) since the above record was made, and this patient has been well and hearty the whole of that time. The cure seems to have been radical and permanent, and the daughter is almost a young lady.

grotesque as well as painful to behold. Excepting the left arm, which is but slightly affected, the remaining portions of the body and extremities are not implicated. The pulse is only 80, and normal in every respect. She urinates freely and frequently, but the catamenia have ceased entirely since Sunday. She thinks that when the nervous twitching and spasm commenced in the arms and shoulders the headache became less severe in degree than it was before.

It often happens that the menstrual flow is suddenly checked by "taking cold." Getting the feet wet, exposure from insufficient clothing, or from sitting in a draught of air, may induce a complete arrest of the discharge. In the case before us this result was produced by some such apparently trivial means.

Practically speaking, there is a distinction between suppression and retention of the menses, which you should never forget. *Suppression* of this function implies its complete arrest, or rather, that the ovaries and the uterine mucous membrane have failed to furnish the products which constitute the true menstrual secretion. *Retention* of the menses signifies that, although the catamenial fluid has been secreted into the cavity of the womb, yet, for some especial reason, or reasons, its escape has been prevented. In the one case it is not poured into the uterus; in the other it is not poured out of it through the vagina. This distinction corresponds with that made between urinary suppression and retention. In the former, the urine is not secreted, its elements are not selected by the renal organs from the blood which is brought to them. In the latter, although the kidneys have done their work, the ureters, the bladder, or the urethra, are in a condition which obstructs the flow and prevents the discharge of their proper product.

Difference between suppression and retention.

A sudden arrest of the menses, "while the flow is on," is likely to re-act either upon the circulatory or the nervous system, or upon both together. This is a fruitful source of ill health among women. While this function is being performed, it is the easiest thing imaginable, by such means, to convert a physiological injection of the ovaries, and of the uterine mucous membrane, into a pathological state of congestion and inflammation. This is a short step, and it is taken in a twinkling. The most serious and intractable results may follow. Other and remote organs with which the

Remote disease from arrest of menses.

pelvic viscera are in sympathy, may be implicated. Here we have evident determination of the blood to the brain, which is directly attributable to this cause. Sometimes this result is even more pronounced and alarming. There are those in whom the slightest and most temporary arrest of the menstrual flow will induce cerebral lesions that threaten to destroy both reason and life. Our patient has suffered extremely from symptoms of this kind. Fortunately she has escaped the delirium which is usually present in such cases. In its stead, however, there is the insomnia which implies great nervous perturbation and derangement.

Symptomatic nervous phenomena.

The spasmodic phenomena have followed indirectly. They are symptomatic. In their production it is probable that the cerebellum has been especially implicated. For, according to Flourens, Dalton and others, it is the particular function of that part of the brain to preside over and co-ordinate, or harmonize the voluntary muscular movements. In these choreic jerkings we have evidence that this function is disordered. This young lady suffers from what has been improperly styled "insanity of the muscles." The muscles of the right shoulder and arm are in a state of insubordination to the will. She commands, but cannot control them. Their irregular and forcible action is exhaustive, and it is not strange that a temporary arrest of the spasms is accompanied by a sense of weariness of the affected parts. Excepting from extreme exhaustion, there is no danger of her becoming paralyzed.

If, instead of the cerebellum, the cerebral lobes were involved in this case, there would have been marked delirium, and perhaps a mild and self-limited form of mania. Cerebral troubles, dependent on sudden interruption and arrest of the menses, are apt to be characterized by wakefulness, and oftentimes by utter inability to sleep. The hysterical peculiarities which this case presents are also due to the menstrual complication.

Treatment.—The choice of remedies for the symptoms just detailed and analyzed is between belladonna and gelseminum. I prefer the former, because it corresponds more nearly to the patient's habit and temperament; to the probable cause of the menstrual suppression; to the brain symptoms dependent on the same, in all their minuteness; and to the reflex spasms of the voluntary muscles of the shoulder and arm. It is better adapted to

the congestive tendency dependent on the arrest of the catamenial flow than any other remedy. If this patient had been seized immediately with the spasms; if the choreic symptoms had developed the moment the menses ceased, we would have ordered the gelseminum. For, in that case, the suppression would have depended on a sudden contraction of the cervix, analogous to that which sometimes takes place in labor. And the gelseminum is even better fitted to overcome that contraction than the belladonna. But here the nervous symptoms were preceded by an evident afflux of blood to the brain. This was the primary lesion, and the order of sequence is a significant factor in the choice of a remedy for any given class of symptoms. Belladonna not only corresponds with the cerebral lesion, but is equally applicable to the relief of the muscular symptoms arising from it.

Precisely what degree of importance should attach to a restoration of the menses in these cases, it is sometimes difficult to determine. The old method was to force their return by the use of emmenagogues, cathartics, hot herb teas, and the warm bath. And this under the impression that the symptoms which had their origin in the arrest of the flow could not be so promptly or effectually relieved as by its re-establishment. In many cases, where they were resorted to at once, and if they were not too powerful, these means were, no doubt, efficacious. Patients were cured in what was called a common-sense sort of way. But where, as in the case before you, a considerable time has intervened between the cessation of the proper menstrual flow and the making of the prescription, it is certainly prejudicial to the health and welfare of the patient, indeed, unphysiological, to attempt to bring it on again. Relieve the indirect symptoms by direct remedies, as speedily as possible, and trust to the natural powers to restore the function at or near the next "period." Where there is evident determination of blood to the head, I can see no valid objection to foot and hip baths as adjuncts to our remedies.

Should the flow be forced to return?

This one thing you may bear in mind with respect to this form of amenorrhœa. When some exciting cause has suppressed the discharge suddenly, and when, after a few hours, or days at the farthest, the flow is not resumed, *the chances of trouble at the next*

Subsequent trouble from suppression.

"*period*" *will vary with the degree of congestion and inflammation of the uterus and ovaries consequent upon that suppression.* If the mishap has reacted upon these organs exclusively, the mischief is likely to be perpetuated in the form of dysmenorrhœa, menorrhagia, permanent retention, sterility, etc. But if, on the other hand, the brain is involved, any subsequent irregularity of menstruation will not be so apt to follow. Symptomatic disorders of the nervous system, dependent on this variety of menstrual arrest, are self-limited, and seldom interfere very seriously with the resumption of the flow at the next and subsequent periods. The importance of this rule is shown in the treatment which it is proper to pursue under these varying circumstances. In the former case there is manifest need of treating the patient during the monthly interval, so as, if possible, to avert more serious consequences, and to secure the punctual appearance of the accustomed discharge. In the latter, the present symptoms should be relieved, and the general system regulated by attention to the diet, and by exercise in the open air, after which we may safely leave the rest to nature.

I might spend the whole hour, most profitably, perhaps, in insisting upon the especial need of rest in this class of cases.

Rest and quiet.

When you visit such a patient, you will very likely find her in an illy-ventilated apartment, surrounded by a host of anxious relatives, including one or more lovers, and neighborhood gossips enough to discourage her or drive her crazy, and to consume the oxygen to which she alone is entitled. Your first duty, in such an extremity, will be to clear the room of its unwholesome contents. If these "friends" are adhesive and pertinacious, and you cannot devise any better expedient, you may quietly hint that these symptoms are very peculiar, and may possibly develop into some contagious affection, as, for example, the small-pox. This will have the effect to scatter those mischievous comforters, whose sympathy is a curse instead of a blessing, and you can then forbid their return. In similar nervous states the most trivial causes may perpetuate the difficulty. A noisy door-bell, a talkative nurse, too much light, or sound, or stir in the room, or house, the doctor's creaky boots, and many other things may counteract the influence of the most appropriate internal remedies. It is a very important part of your duty to recognize and remove all these obstacles to recovery.

The patient will take a dose of belladonna 3d, once in three hours during the day, and we shall see how promptly and satisfactorily she will recover.

AMENORRHŒA WITH SUPRA-ORBITAL NEURALGIA.

Case.—Mrs. R., aged 36, with light hair, blue eyes, and mild disposition, complains of a peculiar form of neuralgia associated with the return of menstruation. The menses are tardy; sometimes delayed one, two, or even three days. Their appearance is invariably preceded by a violent neuralgic pain, which is located over the left eye, along the superciliary ridge. This suffering usually begins when the flow should commence, and continues with increasing severity until menstruation sets in, after which it gradually subsides. In the interval her health is excellent. She has never had any other form of neuralgia, but has been subject to this for ten years past. It has never been located over the right eye, or in any other than its present seat. She "expects to be sick" three or four days hence.

This case is an anomalous one. It is by no means rare to hear women complain of neuralgia which is most troublesome "at the month." Sometimes it affects the head, the face, the teeth, or the ears. There are those who have occasional attacks of angina pectoris at this period. Ovarian and mammary neuralgia are frequent accompaniments of menstruation. Incidental, shifting local pains often torment women whose courses are due but are somewhat delayed. But a circumscribed neuralgia of this sort, in this particular locality, recurring with the regularity of an ague paroxysm, in immediate relation with the menses, and subsiding as soon as they have commenced, is by no means common.

Varieties of menstrual neuralgia.

A strange peculiarity contingent on all these cases of menstrual neuralgia, is that the pain is more likely to be seated in the left than in the right side of the body.

Local peculiarity.

Treatment.—These pains are reflex. The cause that produces them is a temporary retention of the menses. Remove this cause, and the suffering is at an end. This indication may be met, temporarily at least, by a variety of domestic expedients. A drink of gin, a warm sitz-bath, the application of a bag of hot salt to the hypogastrium, the operation of a carthartic or an enema, chloroform, or opium, may promote

Local treatment.

the menstrual flow and arrest the pain. But these expedients are only palliative and transient in their effect. They will exert no influence over the function at the next period. In anticipation of the menses the neuralgia will return again.

In order to effect a radical cure thereof, we must look to the seat and character of the pain, its particular relation to the menstrual nisus, whether it comes on, or is worse before, during, or after the flow, and to like symptoms, for especial indications for our remedies. I have never seen but one well-marked case of this kind before. It was the exact counterpart of this. I gave that woman pulsatilla 3 The flow commenced almost immediately the neuralgia vanished; and although five years have elapsed, it has never returned. Mrs. R. will take the same remedy three times daily, until the menses appear, and I prophesy that she will be free from this unwelcome neuralgia in the future.

Specific treatment.

SPINAL IRRITATION, WITH AMENORRHŒA, VICARIOUS VOMITING AND CONVULSIONS.

I was consulted in the following case by my friend, Dr. Wm. D. Foster, of Hannibal, Mo. The notes thereof were furnished by the patient, who is a most estimable and intelligent person:

Case.—My parents were born in Vermont, and up to within a short period before their death, were very healthy and robust. With my mother the "turn of life" came at 53. This caused a severe illness, which developed into insanity, and finally terminated in death from heart disease. My father lived to be 68, and died of dropsy of the heart. I was born in Cleveland, Ohio, and, when my mother died, was 14 years of age. While visiting Chicago the same season, I had a severe illness, of which I remember nothing, excepting that I had a very sore mouth. Previous to this illness, I had always been very well, except that when I was about seven years old I was vaccinated, and it made me very sick. I lost the use of my left arm for some time; had swellings in the armpit and upon the arm, which had to be lanced.

In the spring of 1862, the corner of a falling door struck me between the shoulders, and left me insensible for a day or two. Upon recovery I could not see out of my right eye. It did not pain me much until I began to recover my sight, which was several months after the accident. Often since that time I have been troubled with very severe pains in that eye. At these times the pupil enlarges, and I cannot see out of it.

Soon after my illness in Chicago I realized that there was some-

thing wrong with my spine. The physicians predicted that I would outgrow it. The pains in the back were almost constant, but were very much aggravated whenever there were signs of torpidity of the liver, which generally occurred two or three times a year. Sometimes I would be prostrated with these attacks for from two to four weeks.

In 1864, I was troubled with the passage of gall-stones. Every few days I would suddenly be prostrated with dreadful pains in my side, which would last for several hours. These attacks developed into such a derangement of the stomach that it would not retain food. The pain finally became constant, and I was seriously ill for about six weeks; was confined to the bed, my back and head troubling me greatly. Prior to this, the worst pains in my back were between the shoulders, extending upwards to the head, and so severe as often to make me delirious for a few hours.

In 1865, I had several abscesses, which were thought to have been caused by my having fallen down stairs. These abscesses are now believed to have formed in the left ovary. I had no more of them until about a year ago, but within a year have had several, all of which have been on the right instead of the left side. They have discharged through the vagina.

I always had more or less headache during my "periods." For the last five years have had considerable pain in the small of my back, and in the womb itself. In the winter of 1867, I think it was, I was laid up for several weeks with lameness in the small of the back, could not move without help, and for some time there was no action of the bladder, the urine being retained. From that time until now I have suffered from scanty and irregular menstruation. The flow finally stopped entirely, and I suffered each month with pain, violent crampings, etc.

I was married in 1860, at the age of 21; always menstruated properly until the time aforesaid, excepting about four months in the year 1859, when, for some unknown reason, my courses stopped. I did not, however, suffer much on account of it. My back always pains me somewhat, but when the different organs named are in a proper condition, I suffer no serious inconvenience from it.

This statement shows, in very graphic outline, the chief points of interest in this case. But there are additional symptoms which our patient could not catalogue.

Vicarious hæmatemesis.

For two years past, whenever the menses have been arrested, scanty, or tardy in their appearance, she has had vomiting of blood. This hæmatemesis never comes excepting at the month, is not very copious, nor is it

accompanied or followed by any evidences of inflammation or of other organic disease of the stomach.

She is also subject to periodical attacks of severe pain in the back and head, which end in spasms, delirium, and finally in clonic spasms of the muscles of the back, with opisthotonos and fearful convulsions of all the voluntary muscles. Concerning these paroxysms, which are even more painful to her friends than to herself, the Doctor says; "I have observed that the cramps, delirium, dilatation of the right pupil, pains in the spine, etc., invariably come on when there is any difficulty with the liver. The menstrual approach excites the same train of symptoms. So also does any mental trouble, disappointment, or other cause of serious mental excitement.

Convulsions.

The causes of.

"The sensitiveness of the spine is most marked in the lower cervical and upper dorsal regions. The spine, however, is somewhat sensitive throughout. She frequently falls to the floor; but, when she has any premonition, usually gets to a chair or lounge, and saves herself. These spells usually follow the more severe symptoms of spinal irritation. She has never been pregnant."

Prodromata.

The patient came to this city, and was under my care for several weeks. Her case was interesting and intricate, for several theories of her disease suggested themselves. Her illnesss might be said to have dated from her vaccination; or to have been caused by the traumatic injury of the spine from the falling door, and from falling down stairs (spinal irritation); to the hepatic complication; the menstrual irregularity and suffering; or to the epileptiform nature of the paroxysms. But the history of the case led us to infer that these causes had acted conjointly, or rather consecutively, to produce so complicated a set of symptoms.

Theories concerning the nature of the disease.

My friend, the Doctor, had faithfully applied the most appropriate remedies for the relief of the individual and collective symptoms, but without any real or lasting benefit. In this treatment he had persisted for more than two years. The menstrual derangement being marked and prominent, we concluded that it must be an important factor in the case. In his letter, the Doctor said:

Fidelity in the use of remedies.

"The non-appearance of the menses and the scant flow have been invariably owing to the spasmodic closure of the uterine cervix. Whenever I have succeeded in passing a tent within the internal os uteri, the flow proceeded properly. But the introduction of that instrument was a proceeding in which I think there were more failures than successes. By the use of Atlee's dilator, however, I could accomplish the purpose with much greater certainty."

Cause of the menstrual disorder.

Dilatation was therefore persevered with so as, if possible, to overcome the spasmodic closure of the cervix and to secure a free and easy flow of the menses. If this end were obtained, it was thought the result would be to bring relief to the nervous centers that were surcharged with blood—the patient being very fleshy and of full habit. But this means failed because of the persistent inclination to spasm of the uterine neck. For almost as soon as the tent, or Priestly's dilator, had been removed, the cervix would shut so tightly that it would be next to impossible to pass the sound.

Failure of dilatation.

We accordingly determined upon incision. The Doctor came to town and assisted me in the operation. I performed the bilateral section with a Simpson's hysterotome, but did not cut the wall of the cervix entirely through, as recommended by Sims, and practiced by my friend Comstock. The hæmorrhage, which was not severe, was arrested by a cervical tampon that had been saturated with the tincture of the per-chloride of iron. The patient was kept in bed for one week only, the cervix being dilated every alternate day with Priestly's dilator, to prevent atresia of its canal.

The operation of incision of the cervix.

She soon returned home, and with the occasional passage of the sound, and of the dilator (which are introduced without difficulty since the operation of incision), she menstruates more regularly and copiously than she has done for a long time. Thus far she has had no more vomiting of blood. In other respects, also, her health is somewhat improved. The convulsive paroxysms are less frequent than they were. Their character and severity, however, are unchanged. The cervical and dorsal pains continue. The dilatation of the pupil and the temporary amaurosis are relatively infrequent of late, but

Subsequent history.

when they are present they have the same characters as before. This patient is therefore still under treatment.

Now, gentlemen, I have brought this case to your notice for the sake of illustrating three very important points, viz.: (1.) That in your daily experience as practitioners, you will discover that the diseases of women are often more complicated than you had supposed they could be; (2) that Uterine Surgery, and Uterine Therapeutics are by no means perfect and infallible; and (3) that, in this as in some other departments of our art, rapid and brilliant cures are the exception and not the rule.

Practical points.

If clinical teachers were always faithful to their trust, and if those who report their experience in our societies and journals always told the plain, unvarnished truth, such cardinal facts need not be mentioned in this connection. But it is not so. Students are often led to believe that nosological distinctions are real, and that diseases run an uncomplicated and unvarying course. If they have little knowledge of human nature and of human frailties, and especially if they have seen but little of the "practice," they are decidedly impressed with this idea. But the illusion vanishes when they are brought face to face with disease. And I have sometimes thought that they are more likely to be undeceived in this respect in treating the diseases that are peculiar to women, than in their experience with any other class of ailments. This is a case in point.

A fallacious idea.

It is so easy to dictate and dogmatize in these matters that one might prescribe a manual operation, or an internal remedy for such a patient, and insist that either of them should effect a cure. But you will find that these very complicated cases are not so easily disposed of. A certain operation, or a single remedy, may need to be modified or changed repeatedly, perhaps, before the cure is effected, if indeed it ever is. The incision of the cervix uteri in this case was of real service. It is a great point gained to have secured the regularity and freedom of the menstrual flow, and more than all, to have put a period to the hæmatemesis before any manifest organic disease of the stomach had supervened. But the operation has not cured the woman at all. And it

Dogmatic surgery and medicine.

would be wrong for me to report her as well again, when she is not.

There are those who will tell you that this or that remedy, in a particular potency, would undoubtedly have cured her. But such an opinion is presumptuous. We can accomplish much with our remedies. When fitly chosen they are wonderfully efficacious. Every year their curative scope is widened, and their clinical range more accurately defined. But, although we can accomplish more than our predecessors ever did, and with means that they deemed too insignificant to be of any practical use, we should not claim that our skill and success are unbounded. If we are unreasonably confident we defeat our purpose and disgrace our calling.

Do not claim too much.

The health of woman is exposed to so many vicissitudes, and she is the victim of so many interior sources of mischief, that you will always do well to qualify your prognosis and your promises to cure her, even of the simplest ailment. Especially should you forbear from engaging to restore her rapidly to a good state of health, in case of any disorder of menstruation or of the nervous system. I once heard a physician claim that a single dose of sepia had entirely cured one of his patients of a long-standing and serious dysmenorrhœa. It had cut short her suffering and relieved her like magic. This last result we were prepared to credit; but, when he went on to say that the prescription had been made only a fortnight before, and that the menstrual cycle had not yet returned, every experienced person present knew just what to think of the rapid and radical cure which, in all probability, had *not* been effected.

Qualify your promises.

Case.

AMENORRHŒA IN ADVANCED PHTHISIS.

Case.—Miss E., aged fifteen. The menses appeared at fourteen, returned at the proper time for the following two months, and have now been suspended for ten months. About three months after the suppression she had a severe attack of hæmoptysis, which continued at intervals for three weeks. She has headache all the time and chills every morning, which begin about 9 o'clock A. M. and last until 12 M. These are followed by a slight fever. There is great thirst, even during the chills. She has a cough, which is worse in the morning, and her lungs are very sore. Her father

and mother died of consumption. Bryonia 3, every two hours during the day, and calc. phos. 6, at night.

April 28. She is not feeling much better, has chills every morning, and drinks a great deal during the chill. Her throat is sore from coughing. She cannot lie in bed, but must get up and move about. Arsenicum 3 and Bryonia 3 alternately every three hours.

May 4. No better; the chills continue. Her feet have bloated since her last visit, and she has profuse night-sweats, headache in the morning, and the fever lasts until night. The hectic flush is quite pronounced, and the pulse is 160. Lachnanthes 3, four times a day.

May 11. She thinks she is feeling some better. Has had less headache and fewer chills, appetite is better, and she rests better. Her feet are still so cold that hot foot-baths are necessary several times during the day. Her pulse could not be counted. Lachnanthes 3.

(*Exit the patient.*) I have sent this poor girl to the waiting-room in order that you might hear my prognosis, and that I may tell her afterward the plain truth concerning the gravity of her symptoms and our inability to do anything for her permanent cure. In such a case as this, which is really one of tuberculosis in its latest stage, the occurrence of the secondary amenorrhœa, like the sore throat, and dropsy of the feet and limbs, is of fatal significance. Her disease is positively incurable, and I shall direct that she be sent to her relatives in the country, for fresh air, good food, and home comforts, while she does live.

The clinical relation of amenorrhœa to tuberculosis is not always clear and explicit, but there are certain rules which may help us to decide what that relation is in a given case. For example: If the primary lesion has developed within the thorax, the menstrual involvement may be late in making its appearance. This is the form of suppression that usually occurs in the last stages of "consumption." But if the original deposit is anywhere within the abdomen or the pelvis, in the peritoneum or the internal generative organs, the interruption of the monthly flow will happen much earlier, or it may perhaps be the first and most prominent of the morbid symptoms. These facts square with the spread of the disease and the invasion of the adjacent organs, everything depending upon the point of attack.

PART THIRD.

THE DISORDERS OF MENSTRUATION.

LECTURE IX.

MENSTRUAL HEADACHE.

Menstrual Headache. *Case.*—Often overlooked—from uterine deviations. *Case.*—Ovulation and cephalalgia—diagnosis, prognosis and treatment. *Case.*—*Menstrual retention cause of uterine displacements.*

Case.—Mrs. ——, aged 40, began to menstruate when she was only twelve years old. About that time she commenced to have periodical attacks of headache, which, she says, have always returned just before or just after the "courses." She is the mother of three children. With the exception of the time in which she was pregnant and while nursing her children, in each case, and also when, for some unknown reason, the menses were suppressed for twelve months at another time, she has never failed in twenty-eight years to have this headache every four weeks. The arrest of the catamenia took place two years ago, and afforded a complete immunity from these attacks. When the flow was first restored it was slightly irregular in its return, but the headache came on again, and since that time it has been more severe in degree than ever before.

The pain is located in the temples, and across the frontal region, is aggravated by light, but not by noise. It occasionally, although very rarely, happens that a paroxysm is caused by over-fatigue and anxiety. During the attack she sometimes has slight nausea, there is occasional vomiting, weakness, a feeling of inability to stand or walk, and a very decided anorexia. She has consulted many physicians, but without benefit.

Chief symptoms frequently overlooked.

These few symptoms convey no very adequate idea of the suffering involved in the monthly martyrdom to which our patient has been subjected for more than a quarter of a century. The case is by no means a rare one. There are those who have had this painful affection during their whole menstrual life. And, strange to say, it frequently happens that this particular variety of headache is

often improperly diagnosticated and treated. I have seen patients who have been under the professional care of a number of physicians for this complaint, and although the monthly periodicity of their symptoms was as marked as in the case before us, no reference had been made to it at all.

The especial significance of the different kinds of headache that are incident to the sexual diseases of women is not as thoroughly understood by the profession as it should be. I can not hope to remedy this defect in their special pathology, but I desire to offer a few practical hints that are founded upon clinical experience.

Nearly, if not quite all, these forms of cephalalgia are of reflex origin. The only prominent exception to this rule occurs in case of the impairment of the quality of the blood, as in chlorosis, chloro-anæmia, the debility following abortion, menorrhagia, uterine leucorrhœa, or too prolonged lactation. The "menstrual headache," as it is termed, is almost always dependent upon ovarian irritation or inflammation. Hence the relation of the paroxysm to the return of the menstrual cycle. It comes regularly each month. It may either anticipate, accompany, or follow the discharge. The pain is most frequently located in the crown of the head, or it may be in one or both temples, in the orbital region, or even in the back of the head. It may or may not be accompanied by the "clavus hystericus." In chronic cases, it is sometimes described as "crushing, as if there were great weight upon the vertex." This is an intractable and persistent symptom, especially in women who are passing through the climacteric period. More frequently, perhaps, the pain is said to be "burning" in character, and circumscribed in extent.

Reflex headache.

It is quite common for women with this kind of headache to complain of "strange" sensations in the head, or of "forgetfulness;" or they will tell you that "half the time they do not know what they are about." Sometimes, during the paroxysm, they will threaten to "go crazy," and, *nolens volens*, may put the threat into temporary execution. This is the form of headache with which those who are subject to difficult and delayed menstruation are most afflicted. Those who are of the hysterical or the neuralgic diathesis are particularly liable to it. When it occurs as a concomitant of uterine

Peculiar symptoms.

ulceration, I think you may refer the lesion of the cervix and the headache to some primary disease in one or both of the ovaries.

Attacks of headache which are incident to uterine displacements and to leucorrhœa, resemble what is vulgarly styled "sick headache." In this form of the disorder, the paroxysms recur without regularity and without any special reference to menstruation. In those who are susceptible, over-fatigue, want of proper rest, or of food, or an excess of mental excitement, may induce it. Here the gastric function is prominently and principally implicated. Incidentally, the most curious symptoms may attend it. One of my private patients described the feeling in her head as "a sort of wriggling, as from the movement of long worms, such as are found in vinegar." It is not unusual for such persons to complain of a sensation "as if the head had been scalped, and the brain left exposed."

Headache from uterine displacement and leucorrhœa.

I once knew a woman to be confined to her room for fifteen consecutive weeks with a spurious typhoid fever. In her case, this headache returned every fifteenth day with the regularity of an ague. Her description of the paroxysm led me to infer that there was a possible dislocation of the uterus, although it had never been suggested to my patient by her previous medical attendant. I found that the womb had settled down upon the perineum. As soon as it was restored, the periodical headache vanished and her fever did not return. If we except the expedient of setting fire to the house, nothing will place some of these patients upon their feet so speedily as to restore the womb to its proper position, and to keep it there.

Case.

There is a prevalent idea that the menstrual headache is caused by a spasm or obstruction of the uterine cervix, which has the effect to prevent a ready exit of the menstrual flow. In exceptional cases, this may be true; but the reverse is certainly the rule. If it were not so, labor, either in abortus or at term, and indeed, whatever would secure the free expansion of the cervix, would cure it radically and entirely. But this woman's history disproves the theory of its being due, in her case at least, to a lesion or spasm of the neck of the womb. She has had three children, and now is worse than ever before.

Cause of menstrual headache.

Here the direct relation of the headache to the function of ovulation is shown, not only by the regularity of its return at the month, but also by a complete exemption from it during gestation and lactation. In pregnancy, and while nursing, menstruation is physiologically suspended. When this function was arrested the headache ceased, and when it was resumed the headache returned. The same was true of the period during which, for some unknown reason, she had amenorrhœa. The periodical afflux of blood to the generative organs, but more especially to the ovaries, and the nervous tension and erethism connected with the monthly crisis, appear to have been sufficient to cause the headache. As soon as the vascular and nervous energies were diverted and busy elsewhere,—in the developing uterus during gestation, and in the mammary glands while nursing her infant,—the remote cause was removed, and the effect ceased.

Proof of connection between ovulation and the cephalalgia.

This view of the etiology of "menstrual" headache is confirmed by the history of cases in which an incidental and temporary excitement of the generative system causes an attack independently of, and without reference to the monthly return. There are those who always have it after coitus. In some it follows the first indulgence of the sexual act after menstruation, or prolonged continence. In others, a sexual orgasm induced by emotional influences, especially if it is ungratified, may be followed by a severe attack of this peculiar form of headache. Incompatibility in the marriage relation is a frequent cause of it. It is sometimes due to a temporary arrest of the flow for a few hours, or rather to what has been styled "intermittent" menstruation. Or it may depend upon too scanty or too copious a discharge. In brief, in certain women, whatever mental or physical causes are sufficient greatly to derange the circulation and innervation of the internal generative organs are capable of inducing the "menstrual headache."

Headache from causes which simulate ovulation.

Exciting causes.

Suppose we interrogate this patient a little farther, and ascertain if there are not other symptoms with which we should become acquainted.

"Are you quite well, madam, with the exception of the headache?" "No, sir, not entirely; but the pain in my head, when

it does come on, is so much worse than anything else, that I make no account of the other symptoms." "What other symptoms have you?" "I have a feeling, sir, as if my limbs were going to sleep. It requires a great effort for me to keep about, and I am very sensitive to the cold air." "Do you have these symptoms now, midway between the periods?" "Yes, sir." "Tell me how you feel when the flow commences, and while it continues." "I often have a kind of spasm in the bowels, which comes on just before the discharge begins, and then goes off again. Sometimes I become a little blind, and so long as I am sick there is more or less darkness before the eyes, so that I can not see distinctly." "Do these last symptoms disappear as soon as the flow stops?" "They do." "Show me where the pain is located." "It is here, sir, in the left side, right over the hip. Sometimes it is in the groin, and shoots down that leg; at other times, saving your presence, it passes into my belly. And sometimes there is a throbbing in the lower part of my back-bone." "Are you quite certain that these symptoms return every time you are sick?" "I am, sir, they are as sure to come as the flow itself."

Search for the primary lesion.

Now, therefore, if there have been any doubts in your minds as to the interpretation of this case, I think they will have vanished with the close of this examination. You may sometimes find it even more difficult to locate the original lesion which has given rise to a sympathetic headache, such as that of which our patient complains; but you should always search for it. For, depend upon it, although you may fail to remedy an obscure case, if you can explain its special pathology, its cause, course, nature, and probable termination, you will have almost as strong a hold upon the confidence of the patient and her friends as if you were really able to cure it.

Diagnosis—from "sick" headache.

There is no especial difficulty in diagnosticating this from other varieties of headache. The "sick" headache affects males and females indiscriminately, and sometimes affects quite young children also. It is not regularly paroxysmal. The fits have no especial relation to the menstrual cycle, but may be brought on at any time by an excess of anxiety, fatigue, or the eating of improper food. The paroxysm passes off with sleep, or is relieved by pressure, as from a handkerchief bound tightly about the head, and sometimes ends with emesis. The gastric function is chiefly deranged, and

nausea, retching, and vomiting almost always attend it. It may occur prior to puberty, and also after the climacteric. In many women the paroxysms of this headache are more frequent during the early months of pregnancy and lactation than at other times. Those who are subject to it are apt to be wretched and hypochondriacal. It is sometimes cured by change of climate.

From "neuralgic" headache.

The "neuralgic" headache is traceable to vicissitudes of weather, unusual exposure, especially to wet and cold, prolonged mental strain, insufficient nourishment, nervous exhaustion and perturbation of the mental faculties. Unless of a regular intermediate type, as in orbital neuralgia, or "sun" headache, it does not recur regularly, and has no especial relation to the menstrual function. It is often relieved by eating or drinking. The rheumatic diathesis is a strong predisponent of this variety of headache. Seamstresses and others who live upon a light and insufficient diet, who are underfed and overworked, and who drink much of tea and coffee, are very liable to it. It is sometimes caused by decayed teeth. The pain is piercing, darting, lancinating, and erratic, sometimes present in one part of the head or the face, and again in another, now superficial, then deep-seated.

From "congestive" headache.

The "congestive" headache, of which one sees more in the medical books and journals than in actual practice, is marked by a flushed face, redness and suffusion of the conjunctivæ, either dilated or contracted pupils, photophobia, an intolerance of noise, and a full pulse. This form of headache is usually a concomitant of some local inflammation, and subsides without any very serious consequences.

From "hysterical" headache.

The "hysterical" headache differs from those of which I have spoken, in the period of its occurrence and recurrence, in the fixed limit of its location, in the fitful flow of animal spirits which accompanies it, and in the marked effect that the most trifling emotional influences have to increase the suffering. It is very likely to recur at the month, more especially if the patient has dysmenorrhœa, or spinal irritation, but is not by any means confined to that particular period. Some women always have it if the menses are delayed or suppressed. In other cases it is a sequel to menor-

rhagia. The paroxysm may be caused, and may come and go, in the same manner as the true hysterical fit.

The proper "menstrual" headache returns with the regularity of an ague paroxysm every time the woman menstruates. If its habit has been to come on at the beginning of the monthly crisis, this habit will be persevered in. If it has been accustomed to return at the last of the month, just as the flow has almost entirely ceased, you may expect it again at the same season. If your patient menstruates once in three weeks it will not fail; if every six weeks she will not escape it. Nor does it matter if she has had an incidental attack during the inter-menstrual period. It will be all the same, whether sooner or later, whenever ovulation takes place. Pregnancy, lactation, amenorrhœa, the climacteric, or whatever interrupts the menstrual function, will arrest it. When this function is restored, it will come again. The degree of suffering in the head is not always in ratio with the quantity of blood that is lost in menstruation, neither with the intra-pelvic pain and distress that are experienced in getting rid of it. The quasi-hysterical symptoms which sometimes attend upon attacks of this headache, are incidental merely, and not at all characteristic. In the majority of cases a close and careful examination reveals either sub-acute or chronic inflammation, irritation, or neuralgia of one or both of the ovaries.

Peculiarities of the "menstrual" headache.

The prognosis will vary with the age, temperament, and surroundings of the patient, the nature and duration of the sexual disorder, the possibility of controlling and directing her emotional states and the condition of her general health. Chronic cases are not so readily cured as those which are more recent, and therefore less complicated. The nearer the approach to the climacteric, the less promising the case. When the menses cease, however, the headache will probably stop of its own accord. Frequent child-bearing, but more especially frequent abortions, render this disease more intractable than it is under opposite circumstances. Domestic infelicity is an almost insuperable obstacle to the cure of this form of headache. The periodical engorgement of the ovaries, which is contingent upon menstruation, lights up, renews, and perpetuates the lesion of those organs, whatever it may be. If we can prevent the

The prognosis.

monthly exacerbation of the sexual disorder, and can so regulate this function that it shall become physiological and healthy, the cure is practically accomplished. Otherwise, the disease may continue and increase until the general health gives way and fatal results follow. In those who have what has been styled the "insane neurosis," or predisposition, it may finally develop into some form of insanity.

Treatment.— The first indication is to correct and control all those circumstances and habits which cause an undue afflux of blood to the internal generative organs. The eating of improper or too highly seasoned food, the drinking of wines and liquors, too much or too little of society, all those mental and moral influences that stimulate the sexual appetite, tight lacing, running the sewing machine, and constipation, are among the avoidable causes of this disease. Horseback riding has induced it, and might therefore be prejudicial. Exceptional cases are greatly benefited by the prohibition of sexual congress for the space of a week before the commencement, and a week after the cessation of the monthly flow. One of my patients insists that she is almost certain to suffer a severe attack of headache, if the act is performed in the early part of the night, when she is weary, instead of in the early morning when she has been refreshed by sleep.

Hygienic treatment.

If there is a deviation of the uterus from its normal position, it should be replaced. If there is any obstacle to the free exit of the menses, whether in the form of atresia, or flexion, or of stricture of the uterine cervix, it should be removed. The general system should be fortified against all debilitating influences whatever. In the intra-menstrual period she should be well nourished and sent to walk or drive in the fresh air and sunshine every day.

Rest at the month is an important element of cure in menstrual headache. Neither the body nor the mind should be overtaxed at this period. You should be particular in this regard, else the patient may unwittingly upset all that you have done and can do for her relief. If she is occupied as a seamstress or school-teacher, nurse, clerk, housekeeper, or what not, she should, as far as possible, avoid all excess of care, confinement and toil for a few days before, during, and immediately after the catamenia. If she belongs to the higher class, she should be advised to shun all

excitement, to forego her fashionable appointments in society, parties, balls, the church, the theatre, and the opera, whenever the crisis comes, and to take the best possible care of herself until it has passed.

The extremities should be kept warm, the head cool, the skin soft and flexible, the urine free, the bowels regular, the circulation equable and uniform, more especially for some days before the flow is due. Such patients should be protected from exposure to stormy and cold weather. One of the worst possible things for them is to get the feet wet and chilled with snow-water.

When this disease is engrafted upon a neuralgic diathesis, electricity properly applied is sometimes very beneficial. In some cases relief may be obtained by having the spine and extremities thoroughly rubbed at stated intervals by one who is strong and healthy. I have known a few cases to be cured by an itinerant "magnetizer."

Electricity and magnetism.

The remedies most serviceable in this disease are those which, because of their relation to the reproductive function, are most frequently indicated in menstrual derangements. Indeed, the symptoms that pertain to the lesion upon which this headache depends are often, although not always, a better guide to the choice of the remedy than the peculiar character of the headache itself. Pulsatilla, sepia, nux vomica, belladonna, ignatia, calcara carb., platina, baryta carb., lachesis, chamomilla, and apis mellifica are the chief representatives of this class of remedies.

Internal remedies

If you will compare this woman's symptoms with those proper to sepia you will recognize their marked similarity, and agree with me that she should take this in preference to any other medicine. In another week she will be "unwell," and during that short interval she had better take a dose of sepia every evening. Let her report at the end of a fortnight.

One of our cleverest graduates, Dr. R. B. McCleary, has recently sent me the notes of a remarkable cure of this form of headache by the use of gelsemium. I will read them to you.

Case.—Miss McD., aged twenty-six years, with dark hair and eyes, of a medium height, and dark complexion, has been troubled

with headache all over the head for about six years. Occasionally she has very severe attacks, which last for several days with great prostration. She has taken various old-school remedies, but without benefit. I was called during one of her severe attacks, and found her almost frantic with the pain, very nervous, and complaining of being sore all over, as if she had been pounded or bruised. She also complained of a "peculiar sensation, as if the head were full of worms crawling through the brain." I gave her gelsemium 200, a dose every three hours, which cured her as if by magic, and there has been no return of the disease since, now about "six months."

MENSTRUAL RETENTION A CAUSE OF UTERINE DISPLACEMENTS.

Dr. Rigby to the contrary notwithstanding, it is undoubtedly true that many examples of uterine displacement are referable to other causes than external violence, morbid growths, and the parturient act. Among these causes there is one which has been almost entirely overlooked. I allude to an habitual delay or retention of the menses.

A patient has dysmenorrhœa. As a condition of functional activity, the uterine tissues are surcharged with blood, which moves sluggishly through them. The uterine mucous membrane has shed or secreted the menstrual product into its cavity; but this product cannot pass through the internal os uteri and the canal of the cervix. In order to empty the womb of what should escape without suffering or delay, the reflex phenomena of labor are requisite. The increase in the blood-supply, the torpidity of its circulation, and the retention of the menses within the womb, add to its volume and weight so as to drag down and displace it.

Retention may increase the weight of the womb.

Whether the dysmenorrhœa be congestive, obstructive, ovarian, spasmodic, or membranous, the consequence is a stasis of blood, and incidental suffering and disease. The proper balance between supply and waste, whether as respects structural repair or secretory demand, is lost. Textural changes in the inferior segment of the womb and in the cervix are almost certain to follow. The infiltration of the tissue may result in induration, hypertrophy, neoplastic growths, or unnatural adhesions.

In such a case the displacement is, perhaps, active and temporary. It may alternate with almost perfect health, and return with

each menstrual cycle, to be relieved by the flow. It is not unusual for patients to complain of symptoms that are due especially to prolapsus or anteversion, whenever they menstruate. Many women learn from experience that much of the suffering incident to dysmenorrhœa may be relieved by raising the hips and lowering the head. One of my patients told me that for years she had derived more comfort at such times from placing her feet upon the high foot-board of her bed, and dropping the head very low, than from anything she had ever taken internally or used locally as a palliative.

Displacements at the month.

More frequently, however, and for reasons already specified, the luxation becomes chronic. The monthly period recurs so soon that the patient has not recovered from one attack before another is precipitated upon her. It is like attempting to cure an acute gastritis while the patient continues to eat regularly and heartily of indigestible food.

May become chronic, and why.

Nor is the mere increase of weight in the womb the sole cause of the uterine deviations which are incident to dysmenorrhœa. The more decided and powerful the expulsive pains (which are designed to force the flow), the greater the liability to displacement; just as in labor at term the uterus descends in ratio with the strength and persistence of its contractile effort, and may even escape the vulva without first being delivered of its contents. And this is a veritable labor. There are the same contingents of structural change in the uterus, and of relative displacement of the organ, that attend upon abortion and full term delivery. The difference is one of degree, and not of kind.

Expulsive effort of the uterus.

Amenorrhœa (suppressio mensium) sometimes results in uterine displacement. This is especially true of those cases in which certain kinds of exposure or exercise have arrested the flow at the moment it was due. If a woman sets out for a sea voyage, or a voyage by rail, the day before her menses should appear, she will be very apt to skip one period, and perhaps more. Or, if the flow comes, she may experience greater suffering than usual. If it be too scanty, or too profuse, she may be very ill. As an indi-

Uterine displacements from temporary suppression.

rect consequence, she will be likely to suffer from some form of uterine flexion or dislocation.

There is no question but that many cases of this kind are due to such slight and apparently trivial causes. It may be as harmful and injudicious for some women to leave home on the eve of menstruation as it would be for others to go to church or to a concert when in momentary expectation of childbirth. I have known a rough ride in the carriage or upon horseback, taken at this particular period, to cause a decided prolapse of the womb. And in the nature of things, there is no reason why it might not frequently happen. According to Wright, "a displacement of the uterus is just as much an absolute fact as the occurrence of a hernial protrusion," and hernia has certainly resulted from a similar cause.

Carelessness at the month.

I do not wish to be understood as teaching that all, or even a majority of cases of uterine displacement are chargeable to menstrual obstruction or derangement. I only insist that this class of causes and their manifest consequences shall not be overlooked. The truth is that our writers and practitioners are accustomed to magnify the importance of hygiene as applied to gestation, while they make but little account of that proper to menstruation. In so far as uterine deviations are concerned, we are prone to discriminate loosely in favor of those sequelæ which may follow the parturition of the embryo and fœtus, and to discard all such as are consequent upon that of the menstrual product.

Treatment. — If this view is correct, the inference is obvious. The cure of this kind of displacement must hinge upon the relief afforded to, and the regularity of, the menstrual process. If the dislocation, of whatever variety, depends either upon dysmenorrhœa, or simple retention of the menses, the first thing to be done is to remedy the catamenial disorder. To treat the case simply as a displacement, and to expect to cure it by any universal expedient whatever, whether local or internal, will be unsatisfactory and unsuccessful. Emmenagogues would only increase the difficulty. And so also would astringents. The pessary would be of no more service in such a case than a hernial truss. Indeed, it might prove as harmful in a displacement arising from this cause as it has been beneficial in others.

The indication is to cure the menstrual disorder.

This theory explains the wonderful efficacy of some of our remedies, when prescribed for the relief of uterine luxations. Through their manifest and well known relation to the menstrual function, we have learned to rely upon them for the cure of those displacements of the womb that are consequent upon certain derangements of that function. In other words the key to their curative range and adaptability is found in their power to remove the condition upon which the disorder of place depends. From the provings alone we might never have learned what we already know empirically, logically and physiologically, of the power of certain remedies indirectly to influence the position and relations of this very important organ.

Modus operandi of some remedies for prolapsus, etc.

There is an excellent and harmless auxiliary which can be used in some of these cases to great advantage. I allude to the sponge tent, which by removing the mechanical cause of the retention, may relieve the difficulty and help to cure the displacement. I am not aware that others have recommended this instrument in any form of uterine luxation. But it is a temporary, non-medicinal, unobjectionable expedient, which can be employed without risk, and in such a manner as to secure the free exit of the menstrual fluid as soon as it is poured into the uterine cavity. It certainly does not interfere with the action of internal remedies, nor will it, if properly applied, give rise to any lesion of the cervix. It promotes the painless and gradual dilatation of the internal os, obviates suffering, and averts the reflex symptoms of which the patient is so apt to complain. It does not lift the womb directly, but ministers to its reposition by unloading its vessels, so that it can retract. It should be introduced from twelve to twenty-four hours in advance of the menstrual period. At this time the internal os is "off-guard," and the operation is less painful and more successful. It should be allowed to remain in for from four to eight or ten hours according to circumstances. When it is removed, the patient should keep to the bed or sofa, and not be allowed to stand upon her feet for some hours, or even, perhaps, for days.

The sponge tent a useful auxiliary.

It is a singular and significant fact that cases of dysmenorrhœa which merge into menorrhagia are rarely followed by uterine deviations of any kind. It is only when the absolute loss of blood

causes extreme atony of all the utero-vaginal tissues that such a result is witnessed.

UTERINE COLIC.

Case. — Mrs. —— sent for me in haste, on account of her sudden illness. She had reached home from a long journey, and in perfect health, only an hour before. After a general bath, she took a vaginal injection of cool water, and, almost immediately, felt a sharp, spasmodic pain in the region of the womb. This pain increased in severity, and, before my arrival, became almost insupportable. It would remit, and then return with redoubled violence. I found her pale, with a cool surface, an anxious, imploring expression of countenance, and a slight nausea. She was midway in the inter-menstrual period, and had not eaten anything unusual, or, indeed, anything whatever, for some hours.

A clinical lecture without a practical lesson would resemble a sermon without a moral one. There is a point in this case which you should carry home with you. It is this, that there are certain conditions of the womb and other pelvic viscera in which the shock of an otherwise harmless injection thrown into the vagina may work mischief. Whatever determines the blood to these organs increases the risk of using such an expedient suddenly, and, as it were, without proper warning and delay. A woman has been at work with a sewing machine for some hours consecutively. Having finished her task, she takes a bath, and directly afterwards a vaginal enema. Almost immediately she is seized with symptoms resembling those from which my patient suffered. Or a similar result may follow a ride on horseback, or in the carriage, a game of croquet, standing for an hour or two at an evening party, too long a walk, a protracted lesson at the piano, or, as in this case, a fatiguing journey, all of which acts predispose to irritable conditions of the uterus. Under these circumstances there is an exalted sensibility of the organ, and it may happen that a single injection of cool water brought into contact with it suddenly will act as an exciting cause of pain and disease.

Vaginal injections sometimes injurious.

The same is true of cool or cold injections per vaginam before the menstrual flow has entirely ceased. And likewise also of similar injections taken immediately after coitus, with a view to prevent impregnation. At such periods the capillary system of the

whole generative intestine is surcharged with blood. If we wait a little, this physiological afflux is removed, the erection of the organs subsides, and the proper vascularity is restored. But if we shock the delicate structures in the manner of which I have spoken, we must expect that, sooner or later, they will become diseased in consequence.

Symptoms.

In uterine colic the pain usually intermits. Sometimes the paroxysm returns with almost as much regularity as the after-pains which torment multiparæ, and which it is said to resemble. Or it may remit and not leave entirely between the more aggravated periods. The suffering is referred directly to the uterine region, although it sometimes radiates into the sacrum, and again into one or both groins. It is characteristic of this pain that it may be in a measure and sometimes entirely relieved by pressure. The attack commences and terminates abruptly, and is not preceded or accompanied by any particular constitutional symptoms, as chill or fever. There is more or less of tympanites, which develops very rapidly and disappears as suddenly. There is usually considerable intestinal flatulence, distension and pressure. This bloating of the abdomen has all the characteristics of hysterical tympanites. Nausea is a frequent symptom in severe cases.

Duration of the attack.

The attack may continue for a few minutes only, or may extend through some hours, or even days. If it depends, as it sometimes does, upon uterine displacement, it may not subside until the organ is restored. If it is due to the presence of coagula, or other foreign bodies in utero, it will only cease with their expulsion. In this case the pains resemble cramps, are expulsive, and labor-like.

Incident to dysmenorrhœa.

Women who are subject to dysmenorrhœa are likely to have a mild form of uterine colic upon slight provocation. Such persons may be seized with it while walking in the street, and be obliged to sit down or bend themselves almost double for a few moments, until the paroxysm passes off. Or the pain may be so severe as to cause fainting and great alarm.

Incident to hysteria.

Emotional causes often give rise to it in hysterical persons. With this class of patients a fit of anger or jealousy may bring on the attack at almost any time. Or it may precede menstruation and worry the patient for some

hours or days in advance of the flow. Although usually amiable, she will become petulant, is disgusted with and distrustful of humanity in general, and of the male sex in particular. Sometimes she is in a mellow or pathetic mood, or she has a fitful religious melancholy, or, what is still worse, is possessed with the insane idea to work, to set her room to rights, and the plants, the birds, the books, the pictures, stoves, chairs and furniture must be squared up and cleaned up instanter. She must do an immense amount of work in a short time, and only in so doing can avoid this tormenting species of colic and ill feeling in the uterine region. After which, when the flow sets in, she is exhausted, fitful, capricious, cross, tempestuous, drums on the piano by the hour, or writes explosive letters to her husband, or friends, and regulates everything with the utmost irregularity.

May precede menstruation.

Extraordinary fatigue of body or mind may induce it. Intellectual, cultivated women, are more prone to it than others. Seamstresses, young ladies in boarding-schools, actresses, and those whose minds are harassed with family cares, or who are victims of the social fret and friction which wear out so many valuable lives, suffer much from this painful disorder.

Most frequent among intellectual women.

Not unfrequently it arises from incompatibility in the marriage relation. Circumstances which develop a loathing of the sexual act, are very apt to produce it. It may originate either from immoderate indulgence, or from being deprived of accustomed intercourse. I have known it to be caused by drinking ice-water while menstruating.

Uterine colic is also incident to the neuralgic diathesis. It may alternate, or be complicated with ovarian neuralgia, hysteralgia, and even with rheumatism of the womb. In women who are thus predisposed, whatever causes an irritable state of the uterus may bring on an attack of the colic. This form of the disease is very apt to seize upon nervous and delicate patients during the period of pregnancy.

In neuralgic subjects.

Treatment. — Proper hygienic precautions will doubtless suggest themselves to your minds. You should warn the patient of the possible consequences of vaginal injections at improper times. And also of the ill effects of rude and violent exercise, whether of body

Hygienic and prophylactic.

or mind. If she is intelligent — and your merits will commend you to this class of patients especially — explain the modus operandi of those very common causes of disease and suffering among women. One good, logical reason will have better and more lasting effect upon her than any amount of scolding and fault-finding. A good prophylactic is to have the patient wear an extra layer of flannel, silk, or cotton batting over the abdomen habitually.

Various palliatives have been recommended to put an end to the paroxysm. Among the more ordinary and available of these is the application of towels or flannels that have been dipped in hot water, mustard water, hot brandy and water, and the like. In some cases, a sinapism will cause the pain to vanish in a very few minutes. Bags of hot salt, or of dry bran heated thoroughly, are especially useful in case of menstrual colic, and of uterine colic following abortion. In hysterical subjects, the ether spray may be thrown upon the hypogastrium. In inveterate cases, the vapor of chloroform has been injected into the vagina. Dr. Simpson advised a similar application of carbonic acid gas. When complicated, as it sometimes is, with vaginismus, I am in the habit of prescribing a vaginal injection consisting of chloroform one drachm, olive oil and glycerine each two ounces. Or the same may be applied by means of a cotton tampon. If the attack is incident to delayed menstruation, the warm sitz-bath may afford the desired relief.

Palliatives.

In the majority of cases, belladonna or atropine answers every purpose. This is especially true if the attack has been caused by the shock from vaginal injections taken at improper times. If the case is manifestly neuralgic, and more particularly if it is complicated with ovarialgia, the valerianate of zinc may be indicated.

Internal remedies.

Other remedies are colocynth, ignatia, caulophyllin, cocculus, chamomilla, nux vomica, pulsatilla, sabina, and secale cornutum.

LECTURE X.

MENSTRUAL EPILEPSY.

Menstrual epilepsy.—*Case*—uterine and ovarian epilepsy—from amenorrhœa. *Case*—intra-menstrual epilepsy, do. after dysmenorrhœa, sequelæ and non-sexual causes of, prognosis, treatment,—*Irregular Menstruation with Epileptiform Hysteria. Case.*—a compound affection. *Case.*—the two distinct and distinctive stages of the fit. *Case.*—diagnosis, prognosis, and treatment.—*Too frequent Menstruation in Incipient Phthisis. Case.*—menstruation and tuberculosis, menorrhagia and do., significance of the aphonia, treatment, remedies, season and climate, mental worry.

This woman is an out-patient who has been prescribed for several times already, and whose case possesses some items of clinical interest.

Case.—Mrs. W., aged forty, had, seven years ago, what seemed to be an attack of sunstroke, and soon after, a fall down stairs, since which time she has had much pressure in the back part of the head and down the neck. Her headache is accompanied with a flushed face and vomiting. She sometimes becomes blind, especially in the left eye, and, when the pain is very severe, there is a spasmodic jerking of the eyelids. At other times she has shooting pains in the eye-balls, running from before backwards.

About once in three weeks, after suffering extremely with these headaches she falls into a fit, and becomes quite unconscious for a time, frothing at the mouth and biting her tongue. On coming out of the paroxysm she is wild, pulls her hair, and recovers very much exhausted. Then the menses appear, but the flow is scanty and intermittent. The abdomen becomes bloated, and she has a great deal of pain in the left ovarian region. She also has occasional colicky pains in the bowels, and a drawing pain in the left knee. Before the fits began she was regularly "unwell" every four weeks. Belladonna 3, to be repeated every three hours.

One week later, she is doing well; continue the same medicine. She is quite certain that no one in her family ever had epilepsy.

Third week. The menses have appeared, but she has had only one fit, and that less severe than usual, the flow being more free. She wakens at two o'clock every morning and cannot sleep any more. Nux vom. and bell., each one dose daily.

Sixth week. She has had no more fits; the courses came on slightly for one day and then stopped, but returned the third day. Belladonna and hyoscyamus alternately.

Eighth week. She is not so well, has had three fits, and was much prostrated by them. Examination with the speculum shows a large raspberry ulcer on the cervix uteri. Rhus tox. 3, every three hours, and glycerine and hydrastis locally.

Ninth week. She has been quite well until yesterday, when she had headache. Bell. morning and noon, and sulph. at night.

Very few authors, and perhaps none which are accessible to you, have anything to say of Menstrual Epilepsy. Indeed, it is comparatively a rare affection, and years may elapse before you will see another marked case of this kind. The *epilepsia uterina* and *l'epilepsie ovarique* are essentially the same, the disease being characterized by a return of the fit with the coming on of the menstrual period. The paroxysm is not at first purely epileptic, but epileptoid or epileptiform. It may finally develop into genuine epilepsy.

Uterine and ovarian epilepsy.

There can be no question that certain diseases of the generative organs predispose to epilepsy. This is true of men and women alike. But the greater relative frequency of this disease among women is probably due to their peculiar nervous and sexual organization. In them the slightest degree of irritation may be sufficient to cause this dreadful disease in one or another of its forms. With the return of the menstrual cycle it is not unusual for women to experience a kind of pseudo-epileptic seizure, which is self-limited, and passes off with the free establishment of the flow, or with its cessation. Some of these paroxysms are half hysterical, and subside with explosive outbursts of crying, laughing or of copious diuresis. Or they may merge into a pseudo-narcotism which lasts for hours, or even for days.

Pseudo-epilepsy.

In other cases the convulsive attacks recur at the month with tolerable regularity, although the patient fails altogether to menstruate. This form of menstrual epilepsy, which is complicated with amenorrhœa, is the most serious and difficult of cure. In fleshy women who are more than thirty or thirty-five years of age, epileptiform convulsions may co-existe with scanty menstruation, and increase in severity each month in proportion as the flow diminishes. Young women are also liable to this form of eclampsia as a contingent of too scanty menstruation. Maisonneuve records the following rare case of this kind:*

With amenorrhœa.

* Réchérches et observations sur l'epilepsie, Paris, 1863.

Case.—Rosalie M., aged 23, of a sanguineo-bilious temperament, a strong constitution, born in Paris, of healthy parents, was quite well until her eleventh year, when the premonitory symptoms of menstruation having appeared, she was seized with epileptic fits which could not be attributed to any other cause than the difficulty of establishing the flow. The discharge was irregular and deficient in quantity, and each return thereof was invariably preceded or followed by the epileptic seizure, which returned only at this period, sometimes before, sometimes after it, whether in the day or at night, and never failing excepting when the courses were very free. This state of things continued despite repeated bleeding, leeching, blistering, and the taking of anti-spasmodics. The paroxysms were preceded for some days by colic in the lower abdomen and an extreme lassitude. At the moment of the invasion the patient experiences a feeling of suffocation, then, two or three minutes later, falls, loses her consciousness, has severe convulsions of the trunk and extremities, and a red face, but no frothing at the mouth.

Intra-menstrual epilepsy.

It may happen, also, that epilepsy shall depend upon uterine or ovarian irritation, or upon both these causes combined, and yet the attacks shall return only in the intra-menstrual period. Here the same rule holds as in those exceptional cases of dysmenorrhœa which are characterized by uterine spasms and suffering during the interval, and when the flow is not on.

Statistics.

All causes, therefore, which are sufficient to derange the menstrual function may predispose to these epileptiform attacks. Of 109 epileptics, Beau found that in 43 cases the disease had commenced between the sixth and the twelfth year, 49 from the twelfth to the sixteenth year, and only 17 between the sixteenth and twentieth year. In a special monograph on the subject, M. Marrotte concludes:* (1) That epilepsy is not unfrequently caused by derangement of menstruation; (2) that when it does not originate from these disorders, it may be aggravated by them; and (3) That epilepsy may sometimes be developed when the menstrual function is quite normal.

After dysmenorrhœa.

Spasmodic and obstructive dysmenorrhœa are not unfrequently accompanied by convulsive symptoms, that finally take on the epileptiform character. The sudden arrest of the flow, as from fright, has been known to cause this form of epilepsy. It may also occur in consequence of uterine

* Revue Medico-Chirugicale, Paris, 1851.

deviations, more especially, it is said, in case of ante-flexion of the womb. The same is true of strictures of the cervical canal, whether from atresia thereof, or from its imperfect development, as in the "infantile" cervix. Other causes are emotional wear and worry, shock and alarm, hysteria, the indulgence of the depressing passions, masturbation, intemperance in eating and drinking, excess of mental labor and study, the climacteric contingencies, anæmia, chlorosis, rheumatic and neuralgic ovaritis, nymphomania, the first or a forcible coitus, the repercussion of eruptions (especially about the head and neck), too prolonged lactation, and amenorrhœa. It may also arise from an insufficient development of the uterus, as in the case reported from Noeggerath's clinic.*

Case.—Margaret C., aged twenty-one years, native of Scotland, unmarried. Menstruation commenced at 15, and occurred three times at regular intervals of a month, then entirely disappeared, and remained absent nearly three years. Recommenced at 18, and continued a year with no nervous disturbance. Epileptic attacks then made their appearance at irregular intervals, commencing with muscular spasms in the right hand, the aura passing thence to the head. Nausea and intense cephalalgia continued more than an hour after the momentary attack. From the first the menses were exceedingly scanty, being a mere "show," with a great deal of dysmenorrhœa, continuing but three days at the most. A moderately firm hymen closed the posterior two-thirds of the ostium vaginæ. The uterus was a little more than the pre-puberal size, very movable, the cervix projecting into the vagina, and presenting the characteristic nipple shape. The sound entered the narrowed canal of the cervix with difficulty, and showed the dimensions of the uterine cavity contracted in all its diameters. The most constant symptoms were cephalalgia of the right side, and shifting pains in the lumbar and right iliac region.

Non-sexual causes.

To this list of causes must be added those which are common to the sexes, for women may also have epilepsy from causes which are non-sexual in their character. In the case before us the chain of morbid action seems to have been set in motion by the sunstroke and the fall. Then came the headache, with pressure in the vertex and along the nape of the neck, the flushed face and the vomiting, and finally the falling fit, with unconsciousness and foaming at the mouth. And when one paroxysm had occurred there was the same tendency to a

* The American Medical Times, June 4, 1864, page 266.

repetition of it, as in case of any other periodical affection which involves the cerebro-spinal centres.

This woman's epilepsy is evidently due to the conjoined effect of the fall and the *coup-de-soleil*, either of which causes might induce it in man or woman. But the peculiarity in her case is that for some reason the type of the disease is pronounced and unvarying. The fits return at the month and at no other time, a fact which makes them contingent upon menstruation.

Epileptiform hysteria.

We are perhaps safe in saying that no woman ever had a serious disorder of the menstrual function without more or less derangement of the nervous system. In their clinical history, ovulation and hysteria are inseparable. The nervous erethism which is incident to the menstrual crisis is almost as certain, if not as necessary a condition thereof, as is the local determination of blood to the generative intestine. The frequent recurrence of this strain upon the nervous system predisposes this class of patients to all kinds of nervous diseases. And not only do slighter causes induce more serious consequences among them than with men, but the diseases which result from these common causes are in their case peculiar and often intractable. They take their type from this periodical function, and, whatever their real cause or character, become confounded and complicated with its disorders. In such cases epilepsy and hysteria may co-exist and defy all differentiation. The menstrual derangement underlies the whole difficulty, but whether it stands in the relation of cause, effect, or coincidence, it may be impossible to determine.

Prognosis.

The fact that this patient did not inherit epilepsy, and also that the menstrual difficulty did not precede the coming on of these fits is very important. An analysis of the case which failed to take these items into account would be very unsatisfactory; and a plan of treatment which rejected them and denied their significance would almost certainly fail. If epilepsy was hereditary the prognosis would hinge upon the curability of that disorder. If these epileptiform attacks were secondary upon dysmenorrhœa, or other uterine lesions, whether original or acquired, the case would be very different.

Traumatic injuries of the cerebro-spinal axis are comparatively more frequent and serious in women than in men. With them

the slightest shock may upset and depolarize the nervous relations. The hysteroidal tendency not only increases the injurious effect of falls and blows upon the back and the head, but also complicates and perpetuates the difficulty. Hystero-epilepsy, hysterical paralysis and choreomania sometimes result from such accidents. The jar consequent on a fall upon either extremity of the spine may lay the foundation for protracted ill-health and complete physical disability.

The sexual impressibility and excitability of which I have spoken are likely also to aggravate the effects of a severe congestion of the brain, as from sunstroke or any other cause. The remote consequences may be equally chronic and complicated. Indeed, in obscure cases of nervous disease among women, it is a good rule to inquire whether they have ever suffered from cerebral hyperæmia, or from inflammation arising from this or from a similar cause. In my experience some of the most intractable cases date from an attack of cerebro-spinal meningitis, the chief remedy for which is macrotin.

Treatment.—This is one of those cases which the itinerant quack—and local ones, too, for that matter—would promise to cure with a single prescription, and possibly with a single dose of medicine! If I had brought this patient before you directly after the first recurrence of her period, and reported her as cured, simply because she felt a great deal better, and for once only had escaped the fits while the flow was on, I would have been guilty of a fraud upon each member of the class. If you had recorded this case in your note-books as cured, you would have written an untruth. And if it had been reported at that time in either of our medical societies or journals as a successful case, the profession would have been misled, and great mischief would have been wrought.

A good clinical rule.

Let me say, therefore, that no case of disease occurring in a woman, and implicating the menstrual function, either directly or indirectly, should be considered as *cured* until *at least three healthy "periods" have elapsed.* And since this rule applies to a large proportion of the diseases which are peculiar to women, you should not only be chary of promising to cure them speedily, but likewise careful in claiming to have cured them at all. For in no other department of medicine are relapses so frequent and our therapeutic deductions so fallacious.

In a case of this kind the first question to decide is, which of these several factors is most significant? Is it the cerebral lesion, caused by the sunstroke; the fall and the concussion which she experienced; the scanty, intermittent, and more or less painful menstruation, or the "raspberry" ulceration, the effects of which require treatment? Or, can we relieve them *all* by the same means and simultaneously?

Query.

This poor woman's health was so good before the accident, and even now is so slightly impaired during the inter-menstrual period, as to leave but little doubt that if she had escaped the fall and the effects of extreme solar heat, she would not have had this form of epilepsy. Therefore it seems most reasonable that we should treat her with reference to this fact. Moreover, if the lesion was caused in this way, its cardinal and essential symptoms must indicate the remedy or remedies.

Belladonna seemed to take hold promptly, so that the patient and her friends, as well as our clinical assistants, thought she would get well very soon. It covered most of the symptoms, and was also indicated as an antidote to the special causes of which I have spoken. But its operation in such a case can not be immediate, nor its effects thorough and permanent. We may need to give it again and again, and perhaps also to change the potency from the third to a higher one.

Belladonna.

The nux vomica was given for the relief of what has been improperly styled "a characteristic" symptom—I mean the early morning wakefulness.

Nux vomica.

At the third prescription she took hyoscyamus, as a remedy for the intermittent menstruation. In cases in which the flow is scanty, fitful, spasmodic, and intermittent, you will often find that a few doses of hyoscyamus will relieve the difficulty. But if the cause of the trouble is mechanical, as from uterine deviations, or from cervical obstruction caused by polypi, fibroids and the like, it will fail, as all internal medication must necessarily do.

Hyoscyamus.

I ordered the rhus tox. chiefly because of the disclosure made by the uterine speculum. You can hardly go wrong in prescribing the internal employment of rhus toxicodendron in a case of genuine raspberry ulceration of the os-uteri. But you must be certain that your differential

Rhus tox.

diagnosis of the ulcer is correct, or you may be disappointed with the result. I was once desired by a physician of my acquaintance to see a "splendid case of raspberry ulcer of the cervix." A bivalve speculum was introduced, the lips of the cervix uteri were separated, and what had been taken for a remarkable specimen of this particular form of ulceration, because of its color, I suppose, was the healthy, florid, intra-cervical mucous membrane.

In this variety of ulcer the only topical application necessary may be composed of the rhus tox. or hydrastis tincture and glycerine.

Mrs. —— is now taking belladonna 3, morning and noon, and one dose of sulphur 6, every evening. She will continue this treatment until we hear from her again. (*Exit the patient.*)

Some cases of menstrual epilepsy depend upon ovarian irritation and inflammation. When this occurs in married women especially, the same remedies may be required as in a case of idiopathic ovaritis, ovarian irritation, or neuralgia. Under these circumstances belladonna, colocynth, platina, lilium tig., alumina, calcarea carb., lachesis, mercurius sol., phosphorus, the valerinate of zinc, or some kindred remedy may be called for. In young girls and widows, marriage is exceptionally curative. Tissot cites a remarkable case of this kind:

"I was consulted, three years ago, by a young man concerning the condition of his betrothed, who being otherwise in good health, was subject at the menstrual return, the flow being scanty, to violent colic, which almost always threw her into convulsions. For three several times these fits had been epileptic. I ventured to promise him that, so far from aggravating her disease, marriage would probably benefit it, and the result justified my opinion. Her first confinement caused the menstrual colic to disappear, and consequently the epilepsy also.

IRREGULAR MENSTRUATION WITH EPILEPTIFORM HYSTERIA.

Case.—Mrs. ——, aged forty-nine years, has been ill for more than thirty years. She was married when she was eighteen years old, and declares that she has not been well since that time. She says that her husband treated her very roughly from the first, and that in consequence the menstrual function became very painful and irregular. Within a fortnight she began to have a kind of nervous fits or convulsions, to which she has ever since been subject. These paroxysms have shown a marked tendency to recur

at the period, but occasionally, more especially when the menstrual interval has been prolonged, they have been more frequent. As a rule, they anticipate the flow by one or two days; sometimes they come on after it has begun, and again they follow it. She insists that for thirty years she has never passed through a period without one or more of them.

There is no perceptible aura in advance of the fit, but she has a decided disposition to sleep, and often passes into the paroxysm while sleeping, whether it be during the day or the night. She becomes totally unconscious, and is oblivious to all that has passed during the fit. The only way by which she knows that she has had one is by finding that she has bitten her tongue or lips, or being told of it by those around her. She froths at the mouth, and, if she happens to be standing, falls to the floor in an insensible state. The harder the paroxysm, the more decided the discoloration of the face, the stertor, and the disposition to sleep afterwards. The lighter the fit the more restless and nervous she is, with jerkings and twitchings, and spasms of the voluntary muscles, and a copious flow of urine at the close of the paroxysm.

She has never had any children, nor has she ever conceived. For a year past the "change of life" has caused the menses to be even more irregular than heretofore. At one time she passed three months without any flow, during which interval she was exempt from the fits. But, when the catamenia returned, although they were not more profuse or painful than usual, she had three of these paroxysms in rapid succession. She is not very much more nervous than most women of her age, and although her memory is somewhat impaired, her faculties are not badly shattered. She is very religious, and has always attended church very regularly, and yet, during all this time, she has never had but one paroxysm during the service.

At intervals for more than three years, this poor woman has been coming to our clinic and some of you have seen her before. She is a martyr to the kind of abuse of which there are many varieties, and to which there are but too many victims. For, in all human probability, if she had been properly treated by her husband in her early married life, she would have escaped the frightful disease from which she has suffered for so many years, and from which she can only be relieved by the "change of life," or by the grave.

A compound affection.

Epileptiform hysteria, or hystero-epilepsy, as it is sometimes called, is really a compound of hysteria and epilepsy. It is a curious affection, and one that has recently attracted the special attention of neurologists. Au-

thorities are not agreed as to which of these two disorders lies at the foundation of the difficulty, Charcot holds that hysteria is the essential disease, and uses the word epileptiform as an adjective to qualify one variety of it. It is certain that in this mixed disorder these two affections may run a separate course, may merge or may co-exist with varying degrees of intensity. For, in one case the epileptiform quality of the fit may predominate, while in another its hysterical character will be the most prominent.

Case. Landouzy reports the case of a young woman who, having had epilepsy from her infancy, concealed the fact and was married in her eighteenth year. When it became known that she was subject to this frightful disease, it caused a great deal of trouble in the family, and she became hysterical also. The paroxysms of both diseases came together, but nevertheless were distinct from each other. Her pregnancy and the birth of her first child reconciled the husband and wife, after which the hysteria disappeared, but the epilepsy remained.

First stage of the fit. In epileptiform hysteria the prodroma, when there are any, and the first stage of the paroxysm, will reveal its epileptiform character. The symptoms of epilepsy always open the scene, and those of hysteria always follow in the order of sequence. This patient becomes pale at first and falls if she happens to be standing, or goes into the fit while sleeping soundly, the face thus becomes distorted and congested and she froths at the mouth, bites her tongue, is utterly oblivious to what is passing around her, and the muscles of the extremities are in a state of tonic contraction. These are evident symptoms of the epileptic seizure, and in her case they always accompany the first stage of the paroxysm.

Second stage of the fit. If she had epilepsy in an uncomplicated form, the fit would end with these symptoms. But in epileptiform hysteria, as the song has it, "there's more to follow." Directly the tonic spasms have yielded, a series of clonic spasms and slight convulsions come on; and, in a little while, the emotional symptoms of hysteria disclose themselves. Instead of stupor and indifference there is excitement and uproar, and the double paroxysm ends like a fit of common hysteria.

Without extending my remarks upon this subject, I ought to

tell you that there are two or three methods of recognizing the severity of the epileptic complication, and the consequent danger from this peculiar disease.

Predominating symptoms.

In the first place the more pronounced the epileptiform quality of the affection, especially if the fits are frequent, the higher the range of the patient's temperature; and *per contra*, the more decided the hysterical development, the slighter the variation of her temperature. In the second place, if the disease has continued for any considerable time, the mind will become dull and shattered in proportion with the predominance of the epileptic symptoms, and more acute and excitable if the disorder is chiefly hysterical. Thirdly, in the former condition the more frequent the paroxysm the greater the danger; in the latter, the patient may have a great many of them without increasing the risk. Charcot reports the case of a woman who had nearly two hundred of these fits in twelve hours without any serious consequences. Fourthly, if the hysterical affection is most prominent the paroxysm may always be relieved by pressure upon the ovary, as directed for the simple hysterical fit.

Case.

In the absence of an hereditary tendency to epilepsy, and in view of the fact that, in all these years the epileptiform quality of the attacks from which our patient has suffered has not broken down her nervous system, and ruined her mentally, we conclude that her disease has been chiefly of the hysterical order. The mode of its origin, and the menstrual complication also confirm this view of the case.

Diagnosis.

These, indeed, were the considerations which led me to tell the class long ago that a favorable result might be looked for with the termination of her menstrual life. If the epilepsy had been more pronounced, I would not have promised such a result. You should not forget that complicated cases of this kind may expire by limitation at the climacteric.

Prognosis.

There is a mild grade of cases in which, under careful management, this affection may be more readily and promptly disposed of. But, in forming an opinion in a given case, due allowance must be made for the degree of the epileptiform complication, the possibility of its having been inherited, the curability of the

local or functional lesion upon which the whole difficulty has been engrafted, and the duration of the disease.

Treatment.

The negative results of treatment in this case should not, therefore, discourage you, or lead you to decide that this is necessarily an incurable complaint. Lachesis, belladonna, hyoscyamus, gelsemium, and a few other remedies given under appropriate indications, have done this woman some temporary good; but they have had no lasting or permanent effect.

The cardinal indications for.

For the present I will dismiss the case with the remark that, since this curious affection is compounded of hysteria and epilepsy in varying proportions, and since these two nervous affections are always symptomatic of some uterine or ovarian disorder, a rational and successful treatment must be based on the indications that are furnished by these three factors.

TOO FREQUENT MENSTRUATION IN INCIPIENT PHTHISIS.

Case.—Mrs. S., aged 32, residing in an adjacent state, gives the following history of her case. She has three children, the youngest of which is four years old. She nursed the latter for a period of twenty months, her menses appearing but twice meanwhile. For two years past she has menstruated as often as once in three weeks, and sometimes every two weeks. Originally, menstruation was regular, and normal in all respects. With a single exception, which occurred about four months ago, the menses have not been very profuse. Eight months ago she lost her voice, and in all this interval has not been able to speak aloud. She has no habitual cough or sore throat, but is subject to occasional attacks of diarrhœa, which is very debilitating, and sometimes quite intractable. Has never had the aphonia before, neither was she subject to the croup, or to any anginose affection during infancy and childhood; is losing flesh rapidly; appetite capricious; perspires freely whenever she sleeps; no thirst; pulse one hundred and ten. Tuberculosis is hereditary in the family.

Menstruation and tuberculosis.

The relation of the menstrual function to the development of hereditary tuberculosis is more significant than you may have supposed. The interval between puberty and the age of thirty or thirty-five represents the period at which females are most liable to be seized with symptoms of that formidable disease. After this

period if the menses are regular, they generally escape until the great climacteric is passed. The first ten years of menstrual life show the largest proportion of cases and the highest rate of mortality from phthisis pulmonalis. It is not uncommon for this disease to appear in young girls at the time the catamenial function is established. Retention of the menses is very often a premonitory symptom. We shall, doubtless, have occasion to confirm its clinical import.

But it sometimes happens, that too frequent menstruation may take the place of an arrest or tardy appearance of this flow, in incipient phthisis. The case before us is one of this kind. For fifteen years, or from the age of fifteen to thirty, this poor woman menstruated regularly. Lactation was prolonged to twenty months, the menses appearing only twice before her babe was weaned. For the four months following, everything was normal in this respect. The courses then became too frequent, and have so continued until the present time.

Healthy menstruation depends upon ovulation—the ripening and discharge of the ovum, which takes place every lunar month.

Menorrhagia and tuberculosis.

It is possible that the physiological condition of this peculiar flow may be supplied in exceptional cases of too frequent menstruation. But in young subjects, especially, clinical experience leads us to refer this remittent type of menstruation, as it has been styled by Dr. Tilt, to some severe constitutional or local disease or dyscrasia. Sometimes it is caused by uterine ulceration, which may be either benign or malignant. More frequently it is not organic, but originates in the depraved and debilitated conditions of the system that are incident to phthisis pulmonalis, and to chronic diseases of various kinds. When it occurs so frequently, it loses the character of the catamenia proper, and becomes a passive hæmorrage. Under these circumstances the condition of the blood is such that it very readily escapes from the uterine mucous membrane, which is more than ordinarily congested. Whatever impairs the quality of the blood, may thus directly give rise to a too copious, as well as too frequently recurring menstrual flow. Hence it is, that instead of amenorrhœa in the early stage of phthsis, we sometimes meet with cases of troublesome and even dangerous menorrhagia. Indeed my own experience leads me to

conclude that uterine hæmorrhage, active or passive, is more frequent in women under thirty-five years of age, and who are predisposed to tuberculosis, than our authors and practitioners have generally imagined. As a rule, however, it is more liable to occur in advanced stages of the disease than in its incipiency, and in child-bearing women than in those who are either unmarried or sterile.

In either sex indiscriminately it is not unusual for phthisis to commence with laryngitis, and consequent aphonia. But the marked sympathy existing between the womb, the ovaries, and the larynx, renders this complication more frequent among females than with males. The loss of voice in this case is significant and serious. If it were hysterical, it would not have persisted so many months. In aphonia from spinal irritation, (unless it be traumatic), the attack comes on abruptly, continues for a few days or a week at most, and is very apt to leave as it came. Emotional causes, menstrual or sexual excitement, or bodily fatigue, may induce either of these varieties of aphonia. The loss of voice that sometimes precedes an apoplectic fit depends upon congestion of the medulla oblongata about the ganglion of the pneumogastric nerve, and is a very different affair. The obstinate aphonia, the habitual diarrhœa, the menstrual irregularity, and the frequent pulse of this patient, are objective signs, which must be interpreted as premonitory of pulmonary tuberculosis.

Significance of the aphonia.

Treatment.—The remedy for this case is calcarea phosphorica; and you will be surprised to observe how promptly and efficiently it sometimes acts under similar conditions to those presented by this patient. It may be given in the third, the sixth, or if you please, a higher potency. My own preference is for the third decimal trituration, of which this woman will take two grains three times daily.

Not unfrequently the bichromate of potassa, phosphorus, sodium, or spongia, will relieve the hoarseness which is incident to these cases of incipient phthisis. For this purpose they may be given incidentally, or if otherwise indicated, in lieu of the calcarea phosphorica.

It is quite as important to prescribe the proper hygienic conditions suited to this infirmity as it is to determine the choice of the

remedy. First and foremost this patient should, if possible, remove to a climate which is less humid than this upon the lake shore. This expedient is especially advisable at this season (February). For the weather of the late winter and early spring months in this vicinity is too changeable, and withal too damp, for persons who are predisposed to laryngeal and pulmonary difficulties.

Season and climate.

She should, moreover, have a good diet, and plenty of fresh air, without fatigue. And what is still more important, she should avoid an excess of family care and worry. Any little fret or friction of the domestic machinery has a wonderful influence in keeping this class of patients always on the doctor's hands.

Mental worry.

Whether it be primary or secondary genital phthisis is of the chronic form, *chronique d'emblée*. It is particularly incident to puberty and the climacteric. The seat of the deposit varies, the peritoneum being most frequently attacked, and after it the Fallopian tubes, the ovaries and the uterus in the order named. The neck of the womb and the vagina are sometimes, but rarely, the seat of this disease. Tubal tuberculosis is intimately connected with the clinical history of salpingitis. If the lesion is limited to the tubes and they are removed as in Tait's operation, the local mischief must cease for a time at least. How soon, and how certainly, and in what form it will be likely to return must be decided by the subsequent history of these cases. The careful record of all cases upon which the extirpation of the tubes and the ovaries has been practised would furnish a valuable contribution to the clinical history of genital phthisis.

Genital Phthisis.

LECTURE XI.

DYSMENORRHŒA.

***Dysmenorrhœa*—Definition and varieties—*Obstructive Dysmenorrhœa. Case.*—causes, symptoms, complications, sequelæ, diagnosis, prognosis and surgical treatment. *Obstructive dysmenorrhœa from post-puerperal atresia. Case.*—dates from puerperality.—the result of adhesive inflammation and stenosis, a clinical lesson, a contra-indication for anæsthetics, the use of the uterine stem.**

Most women suffer considerably during menstruation. The kind and degree of pain experienced at the month, however, varies greatly within the limits of health, and with the ability of the subject thereof, to bear it uncomplainingly. It is only when the pain is sufficient to make her ill, and to disable her, or to send her to bed, that we say of a woman that she has dysmenorrhœa. But this form of menstrual disorder is not only painful; it is also tardy, slow, scanty and irregular, and the discharge which is more or less changed in character, escapes with great difficulty.

Authors have described several varieties of dysmenorrhœa, but I prefer to classify them all under the three general heads of (1.) Obstructive, (2.) Neuralgic, and (3.) Membranous. There are examples of each of these varieties in our clinic to which your attention will now be called.

1. OBSTRUCTIVE DYSMENORRHŒA.

One of my most intelligent and amiable patients has written the following history of her case, which for the sake of the benefit that may accrue to others, she has consented that I may read to you:

Case.—I hardly know if I was a healthy child, but I was active, impulsive and sensitive. At eleven years of age the menses appeared, the result, perhaps, of the grief and excitement caused by my mother's death. For about one year they returned regularly, with little pain, and then *ceased*, owing, I think, to wetting my feet, and improper exercise. The result was a cough, dyspepsia, and other bad symptoms. My father employed a physician for

me, who, after several months of medical treatment, brought on the menses again, but with much pain.

At seventeen years of age I was married, after which I resided four years in Boston. During these years, in which I experienced great mental suffering also, I suffered each month, resorting to such remedies as were prescribed in a domestic way by my friends such, for example, as gin, injections of laudanum, chloroform, etc. About this time I was seized with "vomiting attacks," in which I would vomit a tablespoonful or more of clear green bile every ten or fifteen minutes for twelve hours, but never for a less time. As the vomiting, sometimes with purging, continued, the pain would lessen and finally disappear. The nausea and retching would leave suddenly and without apparent cause, for no medicine could be kept on the stomach long enough to produce any effect. These attacks returned at intervals of three, five and eight months. I was treated for them, by physicians in Elmira, N. Y., Boston, St. Louis, and Chicago, and no one was able to relieve me, or to decide upon the cause of these paroxysms.

During the latter half of this period of ten years, my general health was much impaired, and I suffered greatly from gastric irritability and distress. From this irritation I have never found permanent relief.

After four years residence in Boston I came to Illinois, seeking no particular medical aid for some years. At length I was induced to try a water-cure in New-York, where I had the first vaginal examination. As a result, I was said to be suffering from "an irritation of the uterus and vagina, and nothing more." I remained three months under treatment, but still continued to suffer during menstruation.

A few years later I was placed under the care of a noted specialist in this city, who told me there was an "enlargement and retroversion" of my womb. He applied the caustic treatment for six months, and, although he declared that I "was cured" still I suffered as before, at each menstrual period.

One year after this I went to another Hygienic Institution in New York. Here I was told that the "uterus was enlarged, indurated, retroverted, and fastened down, and had entirely changed its structure, and that the change must have been going on for many years. After having been pronounced "cured" only one year before, this was rather discouraging news. I remained at this institution four months, whence I was discharged, not as cured, but better. Still I suffered with menstruation.

In the winter of 1870, severe pain preceded the flow for several hours, and in addition to symptoms threatening a return of all my former difficulties, my bladder was much affected. At this time, and after a careful examination of my case, Dr. Ludlam decided the seat of my difficulty to be "in the neck of the uterus," which

he found was "almost entirely closed." Under his treatment I experienced almost immediate relief, my general health improved, the bladder trouble disappeared, the gastric disorder became less annoying, and I suffered little or no pain during menstruation. Six months have now elapsed since I have finished his treatment, and the cure seems permanent.

Perhaps I should add that my pain was mostly in the abdomen, and of the nature of colic. Warm applications often produced fainting fits and always had a tendency of that kind. Looseness of the bowels frequently accompanied the pains. I could only eat a very small amount of the simplest food. Eating always increased the pain. Finally, after nearly thirty years of painful menstruation, I have at last found relief!

There is one point of interest in this case that is worthy of remark. It is that, the form of painful menstruation from which our patient suffered was the natural sequence of her nervous constitution. Being sensitive, impulsive and active, she almost necessarily began to menstruate at an early age; and, when the function was established, it could not continue to be regular and normal as it might have done under different circumstances. In young girls of this temperament it often happens that menstrual disorders are attributed to getting the feet wet, and other accidents, when the real cause of the mischief lies in the too susceptible nerve centres. Her early marriage, the anticipatory vomiting, the sudden relief of the nausea, the abdominal colic, and the diarrhœa, all resulted from the same nervous cause, or predisposition.

Although the indications for treatment drawn from the study of the patient's temperament, are apt to be overated, I am inclined to rely upon them in cases of this kind. And I advise you to cultivate the habit of looking for this nervous constitution, because it is a significant element in various menstrual disorders. This peculiar characteristic is plainly observable even in the style of her communication, and if this report had first come to me in the form of a letter, I think it would not have been difficult to have read her temperament "between the lines."

Obstructive Dysmenorrhœa is a variety of painful menstruation which depends upon a partial or complete closure or obstruction of the canal of the uterine cervix, whereby the menstrual flow can only escape, if at all, with great suffering and more or less irregularity. Although it is by no means a rare affection, the history of this case proves that it may

Definition of.

exist for months or years without being recognized and properly treated.

The causes of this disease are various. Sometimes it depends upon the original conformation of the uterus and uterine neck, in which case, from the very first the "periods," are always characterized by unusual delay and suffering. More frequently, however, it is acquired at a later stage of menstrual life. It may result from a flexure of the womb, in which that organ is bent upon itself like a retort. Opposite the lesser curve, in this case, the cavity of the cervix is obliterated.

Causes.

From uterine deviations.

Versions, prolapsus, and other deviations in the position of the uterus are less likely to cause this form of dysmenorrhœa than flexions. And retro-flexion is more frequent in every form of painful menstruation than ante-flexion.

In certain cases the cervico-uterine orifice and canal are mechanically obstructed by the presence of a foreign body, such as a polypus, a sub-mucous fibroid, or an old coagulum, and, notwithstanding the most violent efforts to expel the flow, it is partially or wholly retained within the womb. For this reason retention of the menses is often described by writers under the head of dysmenorrhœa, and *vice versa*.

From intra-uterine growths.

But a more frequent cause of obstructive dysmenorrhœa is a form of endo-cervicitis, in which the epithelial lining of the canal is exfoliated and lost, and, as a consequence, adhesions are formed between the opposite sides of the canal. These adhesions, whether traumatic, post-partum, or the result of a popular form of malpractice, that is of cauterization, cause an atresia which obstructs and practically closes the passage.

From cervical atresia.

As a rule, those women who have borne children, whether prematurely or at term, are supposed to be exempt from dysmenorrhœa. But this form of the disease is by no means a rare sequel to the abrasions and injuries consequent upon labor, as well as to the local inflammations which may occur about and within the cervix and the vagina during the puerperal state.

The harsh and indiscriminate employment of escharotics for the cure of uterine ulceration (against which I have so frequently

cautioned you), is very mischievous in this respect. The actual cautery, or its potential substitute, the potassa cum calce, destroys the cervical epithelium, and there is nothing left to prevent the consequent adhesive inflammation from sealing up the outlet. Without their epithelium these surfaces grow together, just as your fingers would if the epidermis that separates and protects them were removed by a burn, and the surgeon who dressed it did not know enough to keep them apart until a new cuticle had formed. From considerable experience in this class of cases, I am persuaded that contraction, cicatrization, and even atresia of the cervix are frequent sequelæ of the milder, as well as of the more severe and reckless cauterization to which so many of our patients have been subjected before they come into our hands. The case just cited affords a good illustration of this fact. Mrs. — had already suffered from dysmenorrhœa for several years. The symptoms were sufficiently marked to suggest their own solution and significance, even to a first-course student. But, as if to render her menstruation not only difficult but impossible, she, too, must be cauterized!

From cauterization.

The symptoms of this disease are by no means limited to the site of the obstruction. Within the pelvis, and in the back and limbs, they are similar to those which ordinarily attend upon the menstrual effort. But in this case they are greatly exaggerated. When the patient is one who has never been pregnant, the uterine cavity is so small that the menstrual exhalation from its lining membrane soon fills it, and a feeling of distention and of extreme discomfort is induced. Aching and throbbing of the uterus, with uterine tenesmus are almost always present. In those who have borne children, and who have this form of dysmenorrhœa subsequently, the womb, if not really more capacious, is yet more tolerant of the retained fluid. These women therefore do not commonly suffer so severely as those who belong to the former class.

Symptoms.

In both classes, however, the presence and pressure of the blood, which has no adequate outlet, excites the peristaltic contractions of the uterus with a view to overcome the obstruction and to force the flow. The case then partakes of the nature of labor. The contractions of the uterus are much less powerful, because the fully-developed

Uterine tenesmus.

fibres of its muscular coat are lacking. But it often happens that they are more painful than in real labor. The antagonism between the body and fundus and the circular fibres about the internal os uteri is very apt not only to cause intra-pelvic suffering and agony, but to develop a train of reflex symptoms such as are met with in abortion and in labor at term.

Reflex disorders.

Of the functions which are thus indirectly implicated and deranged, that of digestion suffers most frequently. Obstinate and painful vomiting is almost always present with every return of the menstrual cycle, whether it be prolonged and complete or not. It depends upon a stricture of the os internum, and comes on in the same manner that it does in rigidity of the os uteri during labor, or at the moment that the presenting part passes through the ring that is made of the enormously dilated cervix. If there is ever so small a vent, and a portion only of the catamenial secretion escapes, the pain and emesis may subside. But, unless the flow comes on without any considerable delay, and pretty freely, the vomiting is likely to persist. And, what is a curious clinical fact, one that I am unable to explain, but which I have often observed, is that this vomiting is almost certain to continue for about twelve hours. Our patient says that she vomited "every ten or fifteen minutes for twelve hours, but never for a less time."

Indigestion.

Some cases of obstructive dysmenorrhœa are met with in which the menstrual arrest and derangement have given rise to very complicated disorders of digestion, which many physicians are incompetent to explain and to cure. The gastro-intestinal functions are involved just as they often are in the early months of pregnancy. Either through nervous or vascular connection between the uterus and the stomach, some portion of the small or large intestine, or the liver, or all these organs, the result is the various forms of indigestion, inanition, constipation and bilious disease that so frequently arise from painful and irregular menstruation.

Vesical and rectal complication.

In this, as in other varieties of dysmenorrhœa, it would be impossible for the bladder and the rectum not to sympathize with the uterus in its prolonged effort to empty itself of its contents. Consequently there is, sooner or later, in almost all of these cases, more

or less of vesical and rectal tenesmus. This incidental suffering corresponds with that proper to the first stage of labor.

Coincidently with the tenesmus of the pelvic organs there is often, and indeed usually, a train of nervous symptoms which are more or less pronounced and alarming. Headache, restlessness, insomnia, jactitation, spasms, and even convulsions are not infrequent, all of which, however, are relieved as soon as the flow begins, exactly as in labor when the rigid os uteri has yielded and the presenting part has passed the point of obstruction. A very painful and distressing form of spasm to which some of these patients are subject is one in which the muscles of the back part of the head, of the neck and of the superior portion of the spine are affected, resulting in opisthotonos. Painful, cramping, clonic spasms of the flexors of the fingers and toes often occur. Some women are liable to a temporary blindness at these times, and you will observe the pupil to be sometimes very much dilated and again contracted. In those who are decidedly hysterical, there may be, during the paroxysm, an evident disparity in the size of the pupils.

Nervous disorder.

In true obstructive dysmenorrhœa it seldom happens that the painful and persistent effort to restore the impeded flow finally causes it to become profuse. In this respect it differs from the congestive, the spasmodic, and the membranous varieties, which are all of them likely to be either accompanied or followed by menorrhagia. The amount of the discharge is not proportioned to the severity of the pain. The flow is scanty and intermittent, and, as in the case which I have related, the inter-menstrual period is generally lengthened and irregular.

Menorrhagia infrequent.

If the obstruction is congenital, or has come on from any cause before marriage, these patients are sterile; for the same mechanical obstacle which interfered with the menstrual exit, will prevent the ingress of the semen into the uterine cavity, and proper fecundation will be impossible. If the closure of the cervico-uterine outlet takes place in consequence of cauterization, or of post-partum inflammation in one who has borne a child or children, she also may afterwards become barren from the same cause.

Sterility from obstructive dysmenorrhœa.

If the dysmenorrhœa depends upon congenital mal-formation of the cervix uteri this condition can be readily recognized by the proper employment of a Sims' speculum and the uterine sound, conjoined with the "touch."

Diagnosis.

If it had its origin in puerperal inflammation; if it has followed the extension of simple or specific vaginitis into the canal of the cervix; if it depends upon some uterine obliquity, or the presence of a foreign growth; or if it is the sequel of cauterization, the previous history and treatment of the case will facilitate the diagnosis. The simple fact that at the first attempt you fail to pass the sound into the uterine cavity should not lead you to decide the case to be one of obstructive dysmenorrhœa; for in a healthy state of the uterine mucous membrane, and in the interval of menstruation, the internal os is in many cases so tightly closed that it requires considerable skill and experience to pass this instrument at all. But if the canal of the cervix is not absolutely impervious, a little patience and tact will enable you to succeed. You may sometimes insinuate a small Sims' probe, when a large sound, more especially a stiff one, could not be introduced without undue force and unnecessary suffering. I need hardly remind you that you will gain an entrance into the uterine cavity in this manner much more easily "at the month" than at any other time.

Physical exploration.

Passing the sound.

You should remember that in this form of dysmenorrhœa there is not necessarily a complete and entire retention of the menses. The distinguishing characteristic of the disease is that there is a mechanical impediment to the monthly flow, which may or may not amount to a positive obstruction and arrest thereof. The failure of the practitioner to get a correct idea of this fact explains the proneness to blunders in the diagnosis and treatment of this affection; for obstructive dysmenorrhœa bears as little resemblance to endo-cervicitis and to uterine ulceration as it does to perimetritis or to hæmatocele, and to confound them is both inexcusable and mischievous.

The flow, and what it signifies.

The prognosis will vary with the cause of the disease, and also with the consequences of the menstrual irregularity. If the original organic defect, whenever it exists, can be remedied or compensated by surgical means,

The prognosis.

recovery will follow. If the acquired or accidental obstruction, whatever it is, can be removed, the result may be favorable. Something, however, will depend upon the state of health, which is secondary, and which has been induced, directly or indirectly, by the persistent derangement of the menstrual function. If the dysmenorrhœa has existed for years, the patient may be so ill with symptomatic endometritis, gastritis, gastro-enteritis, ovaritis, cystitis, chronic hepatic and digestive derangements, tuberculosis, diseases of the nervous system, or a depraved condition of the blood, as to prevent her complete recovery. And this, although the ease and regularity of the flow have both finally been established. Therefore, you should be careful how you promise to perform a radical cure of this painful affection.

Treatment.—One of the most successful and satisfactory achievements of modern gynæcology consists in having supplied us with the means of cure for most cases of this disease. From the nature of its causes, you will infer that the treatment of obstructive dysmenorrhœa must be chiefly of a surgical kind. Internal remedies are suited to the relief, and possibly the cure, of other varieties of painful menstruation, but they are of little or no permanent avail in this. The cause of the suffering is physical and mechanical, just as in a case of stone in the bladder, or of biliary calculus, and although, by the use of constitutional means, we may mitigate the pain and other incidental symptoms, yet the cure will depend upon the removal of the cause.

Surgical treatment.

If the seat of the stricture is at the os externum, a slight incision may suffice to open the cervical canal. If, as most frequently happens, it is at the os internum, it will be most prudent to try the virtues of dilatation, and reserve the cutting as a *dernier ressort*. Dilatation is equally applicable to most cases of atresia of the cavity of the neck of the organ.

When the passage is very narrow you will begin with a small copper sound, or probe, which may be passed every third or fourth day until the canal is somewhat enlarged. This may be followed by the ordinary sound, small bougies, laminaria, or slippery elm tents, the use of Atlee's, Priestley's, or Nott's dilators, and finally by the sponge tent. And although (in order to take advantage of the natural tendency to

Dilatation.

expansion of the cervix), it is best to commence this treatment at the month, it must be continued during the inter-menstrual period also. As a rule, twice each week is as often as these operations can be borne, and sometimes this is too frequent.

Introduction of the necessary instruments.

As in passing the female catheter, so you will need to exercise considerable tact in the introduction of these instruments, more especially until, by repeated trials, you have learned the course and curve of the canal in each particular case. For its direction is so modified by the position of the patient, the fullness or emptiness of the bladder, the rectum, and even of the uterus itself, as well as by obliquities of the womb, that any rules which I might indicate would be of little practical service, unless you should modify them to suit the case in hand. As a rule, the copper sound is preferable to the stiff one ordinarily employed. Sims' probe is too flexible, and might stick fast in the rugæ of the cervix, or at the point of coarctation. If the womb is retro-flexed, the patient must be placed in the semi-prone, and, if needs be, in the knee-elbow position, in order that the fundus and body of the organ may gravitate into their normal relations, and so that, in passing, the point of the sound may take the natural direction with reference to the axis of the superior strait. The most difficult cases are those in which the cervical canal is tortuous and sinuous. You may or may not make use of the speculum to facilitate the introduction of the sound, or of the tents. In all ordinary cases I prefer to pass them without, instead of through the speculum; but perhaps you will do better with it.

Failure of dilatation.

Much has been said of the frequent failure of dilatation of the cervical canal as a cure for this disease, and also of the injurious consequences that sometimes result from it. My own opinion, which needs a word of explanation, and which is based upon experimental and not upon theoretical grounds, is that, if properly employed, dilatation is more successful and less harmful than is generally supposed. I am inclined to attribute its failure in the hands of some physicians to a lack of caution on their part in the choice and application of instruments; and also to too great haste to cure their patients, regardless of consequences.

That cervicitis, cellulitis, peritonitis, spasms, convulsions, and

even hysterical tetanus, have sometimes followed the use of the dilators and of the sponge-tents is doubtless true, but there is little question that, if the correct and complete history of these cases were written, it would be found that either the tents were composed of improper material, were too large, or were pushed through the cervix uteri too forcibly, or that they were allowed to remain for too long a time before being removed. One of my patients suffered so severely that she could not tolerate a small ebony dilator, which was passed without difficulty, for more than ten minutes at a time. If I had not taken the precaution to remain with her and to observe the effect, but had left her with instructions that the instrument must be kept in place for some hours, she might have been dangerously ill from this cause alone.

Reported danger from.

It may seem incredible, to the more advanced members of the class especially, that any intelligent physician should be so careless as to introduce a slippery-elm or a sea-tangle tent at his office, and afterwards permit his patient to travel by stage or by rail for some miles to her residence, before it was removed! But this is not an infrequent occurrence, more particularly with those who practice most largely among the lower classes in such a city as this. The injurious effects of such a custom should be charged to the abuse and not to the proper use of the tent.

A barbarous practice.

Providing there is no acute inflammation of the endometrium, or of the mucous lining of the cervix uteri, no ulceration, and no extensive or deep-seated cicatrices to be broken up, I think that the whole or any portion of the neck of the womb may be as safely, although not so rapidly dilated, as the female urethra. In exceptional cases, where the obstruction has been relieved by dilatation, it returns after six or eight months.

Conclusions concerning dilatation.

Mischief sometimes results from a lack of care in the choice of the material of which the tent is made. The slippery-elm tents are useful and available, and answer a very good purpose when they are smooth and small enough to permit them to take the shape of the canal through which they are to pass. But when a larger tent is requisite, they are too stiff and straight to suit many cases. A large sea-tangle

Of the various tents.

tent expands so slowly as to be practically useless, and to try to introduce several small ones at once, or, rather into the same cervix, that they may expand simultaneously, is a blundering and unsatisfactory operation. The hard rubber bougies are of various sizes, and can be bent into the desired form by heating them over a lamp, which items are much in their favor; but they are too blunt for use in the early stages of treatment, when the passage is very narrow. If the sponge tent is an old one, it is apt to be hard and unsuitable. Moreover, when kept in contact with the cervico-uterine fluids, such a bit of sponge will more readily decompose. Now that our sponge tents are carbolized, however, it is quite probable that some of the evil consequences attributed to the use of this instrument will be omitted in future.

Precautions in practising dilatation.

The rashness and injudicious haste with which dilatation has sometimes been practised, have excited a prejudice against it in the minds of many. There are physicians who undertake to dilate the contracted cervix in obstructive dysmenorrhœa with the same dispatch with which a surgeon would amputate a limb, or excise the tonsils. The whole operation must be performed at once, and the unfortunate results that may follow are almost invariably attributed to the instruments used, instead of to the lack of discrimination and judgment on the part of the operator. The proper plan is to "feel one's way," as the phrase is, and to take plenty of time in order to overcome the obstruction without any serious shock to the patient's system, or any risk of the diseases which I have named as contingent upon this operation. If you cannot succeed in one month, it is better to take two or three, or six, if need be, and to make gradual progress towards a cure, than to be precipitate and finally to bring yourselves to condemn this expedient altogether. The cautious and persistent dilatation of the cervix was the only means employed in the case cited at the opening of this lecture. I have resorted to it in many other instances with equally good results.

Incision of the cervix uteri.

When, however, you have made a faithful trial of dilatation, and it has failed to bring the hoped-for results: or, if after having afforded temporary relief, there is a serious relapse, and you are satisfied that a radical cure is not possible by this means, incision of the

cervix is a final resource. I do not say that you should never have recourse to this latter expedient before having tried the method by dilatation, but only that I think it more prudent and preferable to hold this operation in reserve, both because it is beset with more real danger, and also because, if it will answer, the simpler means is the safer of the two. There are cases, undoubtedly, in which the incision or slitting of the cervix is indispensable.

Rapid and forcible dilatation of the cervix is very popular with some gynecologists for the cure of dysmenorrhœa and sterility as well as for opening of the cervix for the purpose of intra-uterine exploration and operation. Of the several instruments devised for this purpose, all of which are savage unless very skilfully and cautiously used, Goodell's is the best. In employing it so as to expand the cervix at one sitting, the patient should be placed profoundly under an anæsthetic, and should be kept in bed several days afterwards. It may or may not be best to follow this operation with the introduction of the hard rubber stem, which will have the effect to keep the cervix open and to prevent any irregular cicatrization within its canal.

Rapid dilatation.

This method of rapid dilatation is contra-indicated by active inflammation within or about any portion of the uterus or pelvis, and also by the near approach of the menses. It should be practised within a week after the flow has ceased, a precaution that will give time for the parts to heal before the monthly cycle has returned. It may be necessary to repeat it once a month for two or three times. Usually, we do not need to persist so long with dilatation in treating dysmenorrhœa as in the treatment of sterility.

This rapid method, if carefully done, is more satisfactory in every way, than the old McIntosh method which was first practised many years ago and which consisted of the use of graduated bougies that were passed and allowed to remain for a little while. (Fig. 45.) The introduction of these blunt bougies is often very painful, and the relief that they afford is not lasting or permanent.

Dilatation by graduated bougies.

Incision of the cervix.

Prof. Simpson first conceived the idea of slitting the cervix so as to overcome the constriction of its canal and to open up a way for the ready exit of the menstrual flow. His operation, which was extensively practised by Sims and others has gone out of date. The form of this operation, most commonly resorted to in this country, was that of Sims, which consisted in passing one blade of a pair of curved scissors within the os uteri, and as far up as the junction of the cervix with the vaginal roof. The scissors were then closed so as to cut through the cervix from the outside. The instrument was then turned 'round and the opposite side was mutilated in the same manner. It was in this way that those who had not borne children were made to suffer from an artificial laceration of the cervix which was very similar to the accidental wound of the same organ in the mothers who are now the subjects for Emmet's operation.

Discission of the cervix.

I very much prefer the operation of discission as it was advised by Peaslee. It consists in the uniform division of the cervical canal from the internal os downwards through the external os uteri, but without a complete and unnecessary section of the vaginal cervix. The incision is bilateral and is made without repetition. The steps of the operation are few and simple, the patient should be anæsthetized, not only because the operation would be somewhat painful, and because there might be such a degree of hemorrhage as would alarm her, but also because it is best to have her lie quietly during the operation. The hips should be brought to the edge of the table and the patient placed in Sims' position. The next step after having retracted the perineum with a Sims' speculum, is to seize the cervix and bring it into view. This can be done with a trusty tenaculum, and has the double effect of rendering the manœuvre of passing the uterotome more readily, and of lessening the risk of hemorrhage, for to cause the uterus to descend in this way is practically to place its lower segment in a tourniquet.

The uterotome that was devised by Peaslee (Fig. 21) is preferable. It carries two concealed blades, the expansion of which, after it has been introduced, is regulated by a screw in the handle. It may be gently and carefully passed, like the uterine sound just within the internal os, and when the blades are slightly spread, it should be slowly and carefully withdrawn, so as to cut both sides of the membranous canal as it passes out. It

may be requisite to repeat the operation two, or even three times.

Dangers attending.

Without great care in its performance, there is danger of sudden and fatal hæmorrhage, hæmatocele, peritonitis, cellulitis, or endo-metritis. The risk of these accidents is in ratio with the extent and depth of the incisions which are made through the os internum, and also in the abdominal portion of the cervix uteri, at a point superior to the insertion of the vagina.

You should remember that in their distribution the uterine arteries pass downwards on either side of the womb, to its neck, and then ascend in a tortuous course by the side of the organ between the layers of the broad ligament anastomosing with the ovarian artery. In order to avoid cutting this artery or any of its branches at the internal os uteri, I recommend you to cut from before backwards and *vice versa*, *i. e.*, towards the rectum and the bladder, instead of laterally, being careful not to cut far toward either organ.

Fig. 21. Peaslee's Uterotome.

Precautions.

After the operation she should be kept in bed for a number of days. Fatal peritonitis has been known to occur, from a lack of care in this regard, as late as the tenth day after the incision.

In every case the patient and her immediate friends should be made acquainted beforehand with the nature of the proposed operation, the dangers with which it is beset, and the possibility that it may need to be repeated before the cure can be considered complete.

OBSTRUCTIVE DYSMENORRHŒA FROM POST-PUERPERAL ATRESIA.

Case.— Aug. 6th. This woman is 35 years of age. She gave birth to a child eight years ago, which lived but five months. One month after the child's death her menses appeared, but never have been regular, and continue but one or two days. Previous to the flow she has sharp uterine pains; following it the pains are dull and heavy, she also has pain in her hips. Including the

ante-menstrual effort and the duration of the flow, her sickness lasts for ten or twelve days.

Local examination revealed an almost complete stenosis, or closure, of the cervix uteri. The os was barely large enough to admit of the introduction of a Sims' probe. This lesion was evidently the result of puerperal endo-cervicitis from which she must have suffered eight years before, for she is positive that she has not been pregnant, neither has she had an abortion since that time. The treatment was begun in the presence of the sub-class by the introduction of the uterine sound, and the patient was directed to take belladonna 3.

Aug. 15th. The cervix was exposed and expanded by the use of Nott's dilator. Being on the eve of menstruation she was directed to take gelsemium 3, every two hours. (See Fig. 22.)

Aug. 20. She has flowed a little more freely than usual since the dilatation, and is now menstruating.

Aug. 27. Complains of great dizziness, she does not flow freely enough. The os uteri was again dilated with the same instrument, and found to be less rigid than before.

Aug. 29. The same operation was repeated, after which Chamber's split rubber stem was introduced, and, unless it should prove to be too painful, was directed to be left in position until evening when it was to be removed. Belladonna 3. (Fig. 23.)

Sept. 5. Upon passing the dilator, the internal os was still rigid. The cervical canal was thoroughly dilated and the patient ordered to take arnica 3, three times a day.

Sept. 12. She is improving. The cervix was again dilated and the same remedy continued.

Sept. 19. She is much better; dilatation was practised as before, there being very little obstruction to the passage of the instrument. Belladonna 3.

Oct. 3. She is still improving. No more headache, or flushed face, but feels more like herself than she has for years. The operation was repeated, and the same remedy continued.

Oct. 17. She had her flow for three days last week. It was easy, and natural in quality. She is very happy over the result and delighted with the relief obtained. The same remedy was continued.

Dec. 5. She is still improving; the menses have been free, prompt, and painless. At the last period the flow continued four days. The sound passes very easily, and the depth of the uterus is three and one-half inches. She was recommended to continue belladonna 3. For some weeks she continued to come occasionally to the sub-clinic, when the dilation was practised, especially in advance of the period, as prophylactic of the dysmenorrhœa.

This is an exceptional case, but it will serve to illustrate two or

three points that are of practical interest. The lesion undoubt-

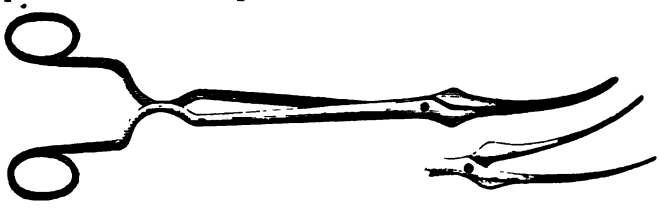


FIG. 22. Nott's Dilator.

edly originated in a form of puerperal metritis, but we may safely infer that the inflammation was limited to the cervical portion of the uterus. For if it had involved the lining membrane of the uterine cavity, or, in other words, if she had had puerperal endo-metritis,

Dates from puerperality.

FIG. 23. Chambers' Stem Pessary.

there would have been sub-involution, menorrhagia, and increased depth of the organ as necessary sequelæ. Instead of these conditions having been entailed upon our patient, however, we have such a stenosis and obliteration of the cervical canal as could only have resulted from adhesive inflammation of its lining membrane. The poor woman, who knows next to nothing of her child-bed experience, cannot tell us whether she had any inflammation at all, and this is a sample of the information that you will derive from a large class of post-puerperal cases.

The result of adhesive inflammation.

FIG. 24. Atlee's Dilator.

The practical point in treating such a case as this is not to rely too exclusively upon internal remedies alone, and, above all things not to incise the cervix in a careless, off-hand way, regardless of the previously existing inflammation which has been so prominent a factor in causing the obstruction and the dysmenorrhœa. If we had cut this cervix

A clinical lesson.

freely in the beginning of our treatment, or if we had dilated it very rapidly and forcibly, the patient might have had cellulitis or pelvi-peritonitis in consequence of our temerity. The same result has sometimes followed the use of the sponge tent under similar circumstances. It is much safer and quite as certain to bring about a good result if we proceed more slowly.

In this connection I am satisfied of another thing, which is that, when the neck of the womb has been narrowed by serious inflammation, whether puerperal or traumatic, or from an excess of local treatment, it is always safer not to administer an anæsthetic before performing any surgical operation for its cure. The sensibility of the patient, if she is not altogether too timid and nervous, will help to decide how far we should proceed with the incision or the dilatation, and to keep us from putting our patient's life in jeopardy.

A contra-indication for anæsthetics.

The object in the introduction of the Chambers' stem, was to keep the canal of the cervix open, and by steady pressure to increase its calibre. This little instrument is especially useful in the case of women, who although they have atresia, have once borne children. (See Fig. 23.)

The use of the uterine stem.

LECTURE XII.

OBSTRUCTIVE DYSMENORRHŒA FROM STENOSIS OF THE UTERINE CERVIX AND PELVI-PERITONITIS.

Obstructive Dysmenorrhœa from stenosis of the cervix. ***Case*****—rule for operations on the cervix—post-surgical peritonitis—*** ***obstructive dysmenorrhœa from retro-flexion.*** ***Case*****—causes, symptoms, diagnosis, sequelæ and treatment of dysmenorrhœa from retro-flexion.** ***Neuralgic dysmenorrhœa.*** ***Case*****.—The importance of physical signs—a neurosis—symptoms—relation of the flow to the degree of pain—treatment.** ***Spasmodic dysmenorrhœa.*** ***Case*****.—effect of stimulants—do. of opiates—medicinal aggravations—gelsemium and other remedies.**

The following is the history of another very interesting case of obstructive dysmenorrhœa:

Case.—Miss—, a Swede aged 24, has been ill for eight months, she suffers from very severe pain which comes two weeks in advance of the monthly period, and continues until the flow stops. The flow itself is very slight, sometimes coming almost drop by drop, and never lasting more than three or four hours. After the pain begins, the distress within the pelvis increases until, at the time of the discharge she is so wretched that she is forced to quit her work and go to bed. When the flow stops the blood is determined to the head and face, and for a day or two she is almost insane with a headache, which gradually wears away so that she can resume her duties. At these times she is very much annoyed by a fine rash which appears on her face and neck.

She gives an intelligent account of herself, and says, that two years ago her sufferings were of precisely the same character. When they became unbearable she consulted a physician, who made an operation upon the neck of the womb, which, from her understanding of it, must have consisted in its incision perpendicularly, after the manner of Simpson or of Sims. For a little while her sufferings were very much relieved. The pain and congestion passed away, and the flow became more free and natural, than it ever had been before. But, in consequence of over work, with a lack of care, she soon felt an increased tenderness and pain within the pelvis and about the neck of the womb, after which, the old symptoms returned. Local examination, found the cervix narrow, and elongated, very sensitive, and almost impervious to the sound. The os-uteri had the shot-hole form, and there was a great deal of tenderness with manifest signs of chronic pelvi-peritonitis. The treatment was begun with careful dilatation of the cervix, and the prescription of belladonna 6, four times a day.

This treatment was continued for several months, with a decided improvement of the local and general symptoms; but the relief was only partial and not permanent. When the dilatation was persevered with, and she did not allow more than one period to pass without reporting herself to the sub-clinic, she got along very well, the flow would come promptly and would continue for two or three days. But if she staid a way and neglected herself, she soon relapsed into her old experiences. Other remedies, including gelsemium and ignatia were given from time to time.

This case is analogous to that shown you at the close of my last lecture. But that, as you will remember, dated from childbed, while this, in all probability, is congenital. It is a rule among gynæcologists that all operations which are designed to open the cervix are dangerous when there is inflammation about the uterus and within the pelvis, but more especially when there is peritonitis or cellulitis. This explains our delay in the use of the sponge tent as a more active means of dilatation. The pelvic peritonitis has therefore been in the way of a radical cure.

Rule for operations on the cervix.

From what we can learn it is very doubtful if our patient had this form of pelvic inflammation before she was operated upon two years ago. You will often meet with cases of this kind, for the sequelæ of careless and excessive slashing of the cervix are very common in our day. And I urge you not to forget that post-surgical peritonitis needs to be handled very carefully.

Post surgical peritonitis.

The occurrence of the eruption upon the face is often met with in cervicitis and also in dysmenorrhœa, but its exact relation to these conditions is not known. Sometimes this rash disappears and is transferred to the uterine mucous membrane with an aggravation of the menstrual symptoms, and facial eruptions often result from an excess of local treatment, more especially from cauterization of the uterine cervix, in scrofulous subjects. In this case we will first strive to cure the pelvi-peritonitis, and afterwards proceed, if necessary, to operative interference. She will take belladonna 3, three times a day.

The facial eruption

OBSTRUCTIVE DYSMENORRHŒA FROM RETROFLEXION OF THE UTERUS.

Case.—Mrs. N. æt. 28 years, is the mother of two children, the youngest of which, if it had lived, would now have been seven

years old, and since the death of which she has not been well. Her confinement occurred in the country where she only received the attention of the volunteer nurses in the neighborhood. After labor she evidently had a pretty severe attack of metritis, with which she was ill for a long time. The child lived four months, during all of which time she continued to nurse it. When after its death, her menstrual function was resumed, the flow was observed to be scanty in amount, and thick and coagulated in character. There was much intra-pelvic pain and distress, a bearing down in the rectum, aching in the sacral region, and obstinate constipation. The suffering at the period sometimes begins as early as ten days in advance of the flow. It generally commences about a week before, and during the twenty-four hours preceding the beginning of the discharge, is sometimes so severe as to make her very ill indeed; but as soon as it comes on freely her acute sufferings subside.

At the appproach of the monthly crisis there is a manifest determination of blood to the head and face, and sometimes to the lungs and heart. In the former case she suffers from a distracting headache which nothing but the eruption of the menses relieves. This headache is accompanied by an intolerance of light and sound, and excessive nervousness and tension of the mental faculties. Sometimes she can divert herself from the thought of suffering by a strong effort of the will, as by setting to work violently, or by reading intently. The pains in the back and limbs, however, prevent her from being much upon her feet while the flow is threatening, and usually, until it has ceased altogether.

When the head symptoms are less pronounced, or lacking entirely, she has dyspnœa, which prevents her from lying down, and cardiac oppression and palpitation that are very distressing to witness. Her husband and friends have often thought that she was surely about to die from them. Sometimes there is choking, and even entire inability to swallow. Again the respiration is hurried and panting, and she has fits of a smothering suffocation, resembling spasmodic asthma. She imagines that she has heart disease, and at least one lugubrious doctor has told her that, one of these days, she will die suddenly of an obscure cardiac affection.

Careful and repeated examination of her chest has failed to disclose any evidence of organic disease either of the heart or of the lungs. There is not the least sign of trouble there excepting at the period, and then it alternates with the brain symptoms.

The uterus, however, is retroflexed, curved upon itself like a retort, but more acutely. The os is in situ, but the fundus uteri falls over backwards and is felt pressing against the anterior wall of the rectum at the Douglas' cul-de-sac. There is no ulceration or other visible lesion of the uterine cervix.

It may, perhaps, have occurred to you as somewhat remarkable that a majority of the cases brought to your notice in this clinic are of long standing, and chronic in their history. There are three reasons for this fact: 1st, in the greater portion of cases of the diseases of women the physician is not consulted in the early stages of the complaint; 2d, no other ailments are so prone to relapse and to self-perpetuation; and, 3d, there is no other department of medicine or surgery in which such egregious errors are committed in diagnosis, and therefore in treatment, as in this. In the light of this explanation, it is not a mere coincidence that these two chronic cases have come before us this morning. They represent a class in which the ill effects of delay and of a mischievous treatment are conjoined,—a class that will give you a great deal of trouble bye and bye.

In retroflexion of the womb the organ is flexed or bent backwards, the fundus being towards or against the anterior wall of the rectum, and the cervix but little if at all displaced. The point of curvature which is the most acute is, therefore, the posterior cervical wall below the internal os uteri, and opposite the lower margin of the peritoneal coat of the womb in front. Virchow and others have taught that the fact, that the external or serous envelope of the uterus being deficient upon the anterior surface of the neck of the womb, predisposes to the various kinds and degrees of flexion to which this organ is prone.

Description of.

Other causes of retroflexion are such as are common to uterine deviations of different kinds. These are, too violent exercise, jumping, skating, calisthenics, constipation, habitual retention of the urine, prolonged sitting or standing, tight lacing, fibroids, polypi, etc. There are two especial causes, however, to which I am inclined to attribute a large proportion of the cases of retroflexion which come to our notice. The first of these is the species of post-puerperal hypertrophy which follows abortion prior to the fourth month.

Causes.

You are aware that the structural changes which occur in the womb in the early months of gestation are usually, and almost exclusively, confined to the body and fundus of the organ. The cervix does not participate in these changes until about the tenth week. Now, if abortion occurs under these circumstances, the

body and fundus of the uterus being disproportionately developed, and the cervix somewhat softened and relaxed, but otherwise unchanged at the time of the delivery, the accident will be very likely to predispose to a flexure of the organ in some direction, either anteriorly, posteriorly, or laterally. More especially would this be true if following the abortion, and from any cause whatever, the proper retrogressive changes in the uterine structures took place irregularly, or were arrested altogether. And so it may happen that a chronic retroflexion shall date from an early abortion which took place years before.

The other cause to which I have alluded is a delay or obstruction to the ready exit of the menses. That dysmenorrhœa may cause this kind of uterine deviation is just as true as that an acute flexion of the womb sometimes gives rise to very painful menstruation. In not a few cases these causes act and react, and exceptionally it may be quite impossible to say which is the cause and which the effect. But where the internal os is either spasmodically or mechanically closed, so as to prevent the escape of the menstrual discharge, the uterine tenesmus may be so prolonged and violent, and with-al exercised in such a direction, through the conjoined contraction of the diaphragm and abdominal muscles (as in true labor), as to force the fundus toward the hollow of the sacrum without displacing the cervix. In those cases of dysmenorrhœa which are characterized by hours of suffering before the flow appears, and which correspond with the first stage of parturition, the true uterine axis is certain to be changed; and deviations at the month are very apt to perpetuate themselves.

Dysmenorrhœa, either a cause or an effect.

These contingencies of gestation and of menstruation should not, therefore, be lost sight of when you study the etiology of retroflexion of the uterus.

The symptoms vary in different cases, depending somewhat upon the degree of the displacement, and the susceptibility of the patient to nervous and other complications. The pain and distress may be near or remote. Such pains within the pelvis, with rectal urging, paralysis of the bowel and fæcal accumulation, weakness, and coldness of the lower extremities as our patient complains of, are very common. Nor is the congestive headache, the præcordial oppression, or the

Symptoms.

cardiac irregularity by any means rare. Naturally enough these symptoms are aggravated each month. For, in the effort to empty itself, under the disadvantage of an acquired deformity, the suffering is the more severe and protracted. At this time not a few such patients have hysterical symptoms, which simulate other diseases, and may mislead the doctor. Or this incident cause may finally develop a species of reflex insanity, and thus render the patient a most pitiable object.

"The touch."

By the "touch" we find, in a case of retroflexion, that, while the os and cervix uteri are where they should be, there is a tumor at the Douglas cul-de-sac. On tracing the outline of this tumor we find that it is retro-cervical, smooth, regular, and that it is connected, by a curve which is more or less acute, with the upper extremity of the neck of the womb. If necessary, the rectal touch may be resorted to in confirmation. In a majority of cases this tumor is reducible by steady pressure, or by placing the patient for a little in the prone position.

The use of the sound.

But the best diagnostic sign is afforded by the introduction of the sound. If, when the instrument has passed the os-internum, its point shall turn backwards instead of forwards, towards the hollow of the sacrum, instead of towards the bladder, there will be little difficulty in deciding upon the kind as well as the degree of the displacement. It may happen, however, that the deviation of the uterus shall be so intimately associated with the dysmenorrhœa as only to occur temporarily, and for a limited period, at the month; in which case this sign of retroflexion would be present at one time, and not at another. Owing to this very simple reason, I have known of some grievous errors in the diagnosis of retroflexion. For it almost never happens that the degree of this displacement is the same for two successive weeks, and it is possible that, during the intermenstrual period, the organ might be spontaneously reposited, a result which we would not expect in retroversion.

The prognosis turns chiefly on our ability to remove the cause, whatever it may have been; on the general state of the patient's health; the exemption from acute or malignant disease, either in the uterus, the ovaries, or elsewhere; and on a regulation of the contingencies of menstruation in such subjects. Even in those

cases which are least severe and chronic it is not safe to promise a speedy and permanent cure. In old cases a radical cure is sometimes impossible because the tissue of the uterine wall at the seat of flexion, in the angle formed by the bend of the organ, has been so atrophied that it will not afford the proper support to the womb when it is upright.

Sequelæ.

One frequent and troublesome sequel of retroflexion is sterility. Another is a tendency to abortion, in consequence of the inability of the uterus to right itself and to rise above the brim of the pelvis, in order to be properly developed. A third and not infrequent result of this deviation is the induction of a species of pathological moulting of the uterine mucous membrane at each catamenial period, causing membranous dysmenorrhœa.

Indications.

Treatment.—In a case like the one before us our duty is plain, Nothing could be more obvious than the necessity for lifting the uterus into its proper position, and for keeping it there when it is restored. Such an expedient is not requisite in all cases of retroflexion indiscriminately. But whenever the displacement interferes with the readiness and freedom of the menstrual flow, it must be corrected; otherwise the most severe suffering may be induced, and the gravest lesions entailed upon the patient in consequence.

Reposition of the organ.

Fortunately, as a rule, the reduction of the dislocation is not difficult. Careful manipulation with the sound, a Sims' or Guernsey's elevator, Elliott's sound, or better still with the index finger conjoined with the proper position of the patient, will be sufficient. So much more easily is this deviation corrected than in retroversion, that it is seldom necessary to manipulate with the finger introduced into the rectum. The patient should lie either in the semi-prone, or prone position, so that gravity may aid in the correction of the misplacement. In some cases it is quite sufficient to pass a Sim's speculum and retract the perineum, when, the vagina being filled with an unusual quantity of air, the uterine body and fundus will immediately be lifted into position. At other times the bladder or the rectum may require to be evacuated before attempting to reposit the uterus.

But, having fulfilled this indication, how shall we keep this

intractable organ from deflection in the future? My own plan of procedure is to confine the patient to the bed or couch, and, as much as possible, to the semi-prone position during the whole menstrual period; to remove all ligatures from about the body; to prevent fæcal accumulation in the rectum, and the retention of urine, also, and to facilitate the prompt escape of the menstrual secretion, when it is requisite, by the artificial dilatation of the cervix uteri. In many cases I have passed a sponge tent, or an ebony dilator, some hours, or perhaps the night before the time for the flow to begin. By this means the instrument not only served to expand the internal os uteri, and thus to remove any particular necessity for a parturient effort on the part of the uterus, but likewise also to act as a means of keeping the organ erect until the discharge was freely established. I prefer these hard-rubber dilators, which, as you see, are of various sizes, because, by heating them over the gas or lamp, they can be bent to suit individual cases more accurately than the slippery-elm or sea-tangle tents could be. Moreover, it will not unfrequently happen that the uterus will tolerate this instrument for several days, in which case it may be left in situ while menstruation is going on; and unlike the sponge, it will not interfere with the exit of the catamenia.

Keeping it in place.

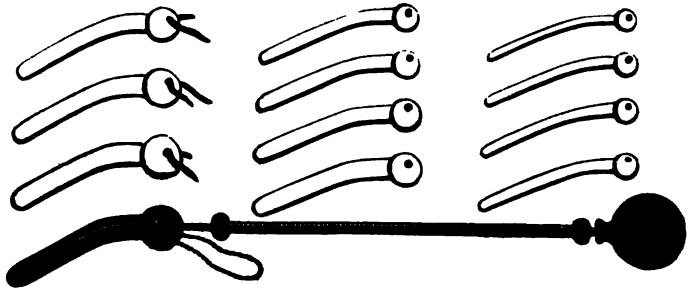


FIG. 25. Hard Rubber Dilators.

Stem dilators.

Some of my patients with retroflexion have worn these stem dilators for a night, or for twenty-four hours or more, each week during the inter-menstrual period. Others, again, who could tolerate them, have carried them within the canal of the cervix, with impunity, for a fortnight or more consecutively. But you must not suppose that such foreign bodies are not sometimes mischievous and harmful, when they are introduced or kept for any considerable

time in the cervical canal. There are cases in which they could not be borne for the space of half an hour, without inducing such alarming diseases as peritonitis, cellulitis, cramps or convulsions. Fortunately, however, when the retroflexion and dysmenorrhœa are combined, these means of dilatation will usually do no harm "at the month," and this is the period of their greatest utility.

Another means of retaining the uterus in position, is to place a support for it in the posterior cul-de-sac. Gariel's air pessary might serve to cushion the organ and to keep its fundus thrown forwards, or a pad of cotton or sponge might be applied in the same manner. A physician of my acquaintance extols the use of

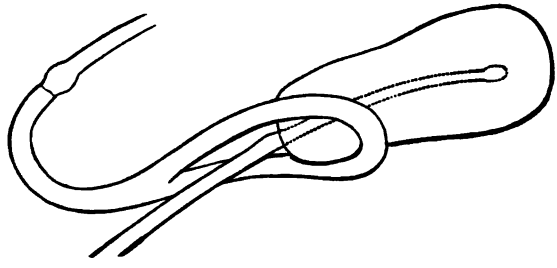


FIG. 26. Cutter's Pessary.

a roll or a wad of oakum thus applied. Thomas's Cutter's pessary sometimes answers the same purpose, and Hodges' or Thomas' also are serviceable in others.

I feel the more inclined to emphasize the importance of keeping the uterus in its proper place, when it tends to retroflexion, because it is unreasonable to suppose, that where the displacement is allowed to continue, the structural lesion which has caused it could be cured while its proper circulation, innervation, and nutrition are so seriously impaired. Even the slightest atrophy of the tissues at the point of flexure could not be cured while the uterus remains bent upon itself. Therefore, this indication precedes and anticipates the selection of the remedy or remedies. Indeed, in most cases, we shall find that when it has been accomplished, there are but very few symptoms remaining. In this respect, and in point of fact, the retroflexion of the uterus is a veritable dislocation.

Having removed the local cause, and corrected its more direct consequences, the symptoms and lesions that remain are to be

treated to the best of our ability, and by such internal remedies as are most appropriate. The proper time for their employment, in this case, for example, is in the inter-menstrual period. For then the way is clear, and we shall make a more decided impression than if we prescribed our remedies regardless of proper conditions and indications.

Medicinal treatment.

We will now pass this ebony dilator, in Mrs. N.'s case, and if it does not cause very much pain, leave it in the cervical canal for a day or two. The operation will be repeated according to circumstances. Meanwhile she will take a dose of belladonna 3, every three hours.

NEURALGIC DYSMENORRHŒA.

Case.—I was called September 16, 1860, to visit Mrs.——, aged 21, of tall, slender habit, nervo-sanguine temperament, and most amiable disposition. Found her suffering from intense neuralgic pains in the uterine, lumbar and ischiatic regions. Her period had passed as usual more than a fortnight before, and for ten days previous to my first visit, these paroxysms of neuralgia had taken on an intermittent type, recurring every afternoon.

My patient had first menstruated at the age of thirteen. She has never had any retention of the flow, but has always suffered extremely. Has been married about six months, but has not been pregnant, nor has she experienced the least change in her menstrual symptoms since her marriage. In February last, while residing in Western New York, she had a severe attack of diphtheria. This was followed by rheumatism, or rheumatic neuralgia of the left arm. When the menses returned at the next month, there was a metastasis of this pain to the lumbar and uterine region. From that time until the present the "period" has been characterized by the most intense sufferings. Indeed there is no very decided remission of her suffering excepting for about one week in advance of the flow. For the day and night immediately preceding the appearance of the catamenia her sufferings are almost intolerable. She becomes exceedingly nervous, and restless, or wild with excitement, delirious, or has cramps and spasms of the most frightful kind.

For the relief of the neuralgia, I prescribed, in turn, arsenicum, cocculus, coffea, hyoscyamus, and with the return of the scanty

flow, apis mellifica, and caulophyllin. These remedies were repeated at reasonable intervals,—each of the two latter palliating somewhat the severity of the symptoms at first, but subsequently proving of no effect.

On the afternoon of the third day of the flow, she had severe hysterical convulsions, which were controlled by moschus in the third decimal trituration. This remedy, however, only made her the more sensible of her sufferings.

After treating her most assiduously through the next menstrual interim—during which time she experienced but partial relief from the neuralgia,—the recurrence of the catamenia, on the 25th of October, was marked by precisely the same symptoms as before. It was impossible to discover that a single point had been gained by some six weeks' faithful trial.

Convinced of the existence of a local cause for the mischief, I proposed an examination per vaginam. Passing my finger carefully towards the external os uteri,—the vaginal walls being almost as closely contracted as in vaginismus, and the patient in intense pain,—I found the womb *in situ*, and the lower extremity of the cervix quite normal to the touch. On going a little higher, in order to ascertain the condition of the upper portion of the neck, my finger fell into a groove which extended all the way around the organ at the junction of the vaginal portion of the lower segment of the womb. This very marked constriction led me to infer that there was a decided spasm of the circular fibres of the neck of the uterus, or in other words a stricture of the cervix, leaving it much in the same condition as if it had been ligated at that point.

Simpson's sound was passed without difficulty as far as the os internum, but by no manipulation could I succeed in carrying it into the uterine cavity. A smaller probe, made expressly, was afterwards introduced, then the sound, and finally this little silver instrument, which resembles one of Simpson's intra-uterine pessaries, was passed completely through the cervico-uterine canal.

This instrument was carefully adjusted at nine in the evening, one day in advance of the expected flow. She was instructed to lie quietly upon her back as long as possible, in order that it might not be displaced, or drop away. It was retained until twelve o'clock—three hours—when it came away of itself. After this she enjoyed a tolerably good night's rest. The next

morning the flow came on, and more freely than usual, and with less of suffering than she had experienced for years before. Once only during this period the flow became scanty, when a few doses of apis mellifica 3, brought it on again, but without any return of the neuralgia.

Contrary to my expectations, the relief seemed permanent. During the next inter-menstrual period she appeared to be quite well; rode out almost daily, attended evening parties, danced and sang (for she was a favorite singer), and was indeed the happiest woman in the city. The only subsequent trouble experienced was six months later, when she had a slight attack of uterine colic, which was promptly relieved by ignatia 3.

The importance of physical exploration.

There are several points of interest connected with this case, the practical relations of which may interest you. Apart from its chronic nature, and the degree of suffering involved, the fact that she had been treated by several eminent physicians in different parts of the country with such a signal want of success, leads one to inquire into the reasons for their failure. The more obvious of these reasons evidently was the lack of a correct diagnosis. The husband assured me that but one of the doctors had ever proposed an examination of this case per vaginam, and that one was not permitted to make it. For this reason, — because they did not pursue this investigation as they should have done, — the whole corps, embracing distinguished practitioners of both schools, failed to bring relief. Indeed my immediate predecessor had told the patient's friends that nothing could be of more than temporary benefit, and accordingly prescribed the free use of the sulphate of morphia, which I found her in the habit of taking *ad libitum*, and in incredible quantities.

Such an oversight is scarcely excusable upon any grounds whatever. As physicians we should respect the delicacy of the sex, and the cautions enjoined and practiced by the profession against all unnecessary and unwarrantable officiousness in trivial cases, where a manual examination is uncalled for; but to allow any squeamish scruples to be in the way of the patient's recovery, or to fancy that constitutional remedies given in the dark, are capable of removing a mechanical difficulty of this kind, argues both a criminal and a crazy neglect of duty on the part of the doctor.

It is worthy of remark that by proper means the diagnosis was

not difficult, and that the relief afforded by the single introduction of this dilator was complete and permanent. I saw my patient three years later, and she had had no return of the difficulty. In this operation there was no cutting of the contracted cervical fibres, for, as you perceive, this instrument has no edge with which to divide them. The mere passage of the smaller sound, and then of the larger one, did not accomplish the result, for their use in the first instance did not lessen the pain and suffering in the least. There were no evidences of existing or of previous inflammation; and if there had been, we can not suppose that so simple and transient a means could possibly dispose of them so instantaneously almost, and so entirely.

Entire relief through a simple operative expedient.

This case was evidently one of neuralgia, a pure neurosis, dependent upon permanent contraction of some of the circular fibres of the upper portion of the cervix uteri, unaccompanied either by inflammation or its consequences, but presenting its symptoms both during the monthly flow and also in the interval between the periods.

A neurosis.

In most cases of neuralgic dysmenorrhœa, the pain and suffering are limited to the monthly return. Any undue determination of blood to the uterus, or even a slight delay in the appearance of the discharge, incidental irritation or displacement of the organ, or ulceration or inflammation thereof, may be the exciting cause of the attack. The pain may be limited to the pelvic or the ovarian regions, or it may assume the form of neuralgia located elsewhere, as in neuralgic headache, neuralgia of the face, the teeth, the eyes, the fingers, the toes, the mammæ, the intercostal spaces, the stomach or bowels, or even of the heart. In such cases the suffering commonly subsides when the "period" has passed. But, exceptionally, as in the case of which I have spoken, where the local spasm or irritation of the cervix is perpetuated, the remote pain and suffering do not subside, but persist throughout the month. You should remember this fact, else the continuance of this form of secondary neuralgia may lead you to suppose that it has no possible connection with the uterus.

Symptoms of neuralgic dysmenorrhœa.

In those who are predisposed to this form of dysmenorrhœa, and who are generally of a neuralgic tendency, the slightest excit-

ing causes may induce it. One of my patients, a very observing and truthful person, who had had this disease for many years, remarked that when she ate very lightly, on the advent of the menses, the suffering was very much lessened. Her habit was to diet herself strictly the day before the flow came on, and to eat sparingly of light food until it appeared freely. A hearty meal at the beginning of the period would increase the suffering in a ten-fold degree.

Causes of dysmenorrhœa.

All those habits of mind and body, which induce prostration and perturbation of the nervous system, are likely in those who are impressionable, to bring on this form of painful menstruation. The incidental suffering, as in neuralgia, is always periodic and paroxysmal. A predisposition to this peculiar kind of nervous derangement, which implicates menstruation and involves great suffering, runs in families, and, during the first few years of their menstrual and sometimes of their married life, every daughter will be the victim of these functional derangements. Not unfrequently the most aggravated cases of neuralgic dysmenorrhœa occur in the experience of those women whose married life is an unhappy one, and who, either from a physical inaptitude for, loathing, or an excess of venery, suffer the evil consequences of forcible, frequent or incomplete intercourse.

When the flow commences, the pain usually remits. And this is true however remote its location. But sometimes the relief is more direct and positive. Only yesterday a lady told me that she always felt light of heart and buoyant immediately the flow began, although but a few minutes before she had been in real agony, and was peevish, irritable, and extremely sensitive to any little slight or injury. The relief sometimes re-acts in such a way as to bring on a hysterical fit of crying or weeping, or of both these together; or it may be followed by tranquil and refreshing sleep. In very rare cases it is followed by inordinate sexual desire, amounting to temporary nymphomania.

Relation of the flow to the degree of pain.

You will sometimes, but not always, find the distinctive and characteristic indications for the remedy in the kind, degree, location, and especial peculiarities of the pain, wherever it may be seated. These details are so varied, and so insusceptible of classification, that

Indications for internal remedies.

you will be compelled to select from a list of remedies which are suited to the cure of every shade and form of neuralgia.

Acting upon the hint that so slight a cause as the swallowing of a teaspoonful or two of cold water may cause a spasm of the uterine cervix, with scanty and painful flow, my friend, Dr. M. F. Page, has sometimes given gelseminum 1, fifteen drops in half a teacupful of warm water, one teaspoonful to be taken every five minutes until relieved, then less frequently with the happiest results. In this form of dysmenorrhœa, at or near the climacteric, he has great confidence in veratrum viride 1, five drops in the same quantity of warm water, and the same dose repeated every ten or fifteen minutes. Yet, it often happens, that what will relieve one case will in another case seem to be without effect, even where the symptoms are very similar.

Warm instead of cold water.

Gelseminum.

Veratrum viride.

There are some cases of this disease which can be cured most promptly and satisfactorily, and without any harmful consequences, by the use of local means. Careful dilatation may suffice — as it did with my patient — to paralyze and overcome the morbid spasm and hyperæsthesia of the uterine cervix, upon which the whole mischief really depends. In neuralgic and spasmodic dysmenorrhœa, I think it better to perform this operation with solid than with sponge tents. Indeed, in some cases of this kind, I have remarked a singular aggravation of the suffering from the use of the latter, especially when introduced in advance of the flow.

Dilatation.

SPASMODIC DYSMENORRHŒA.

In illustration of the fact that neuralgic and spasmodic dysmenorrhœa are essentially the same, and that their treatment varies chiefly on account of the individual peculiarities of the patient, I now present you with the following case:

Case.— Miss ——, age twenty-three, has been out of health for a year and a half. She first menstruated at fourteen, and experienced no unusual difficulty until eighteen months ago when in advance of the flow, she began to suffer unbearable pains in the stomach and over the whole abdomen and extending down the limbs. Her only means of relief is in whisky or gin, which she takes and goes to bed, and after sleeping two or three hours

the pain ceases and does not return until the next period. The flow is regular as to time, but with it membranous shreds are expelled. She is nervous and excitable, and has slight attacks of hysteria at each period, and at these times the least touch of her clothing is oppressive to her. Ignatia 3, three times a day.

Feb. 4. The flow commenced yesterday at twelve o'clock, and continued three hours *without* pain, after this for a few hours there was some pain, but less than ever before, and she did not take her usual preventive. The flow still continues, she has some headache which began with it and which she never had before. Continue ignatia 3.

Feb, 18. She "feels well." Continue the ignatia until the flow begins, then let her take gelsemium during the period.

It often happens that one may learn an important clinical lesson from domestic experience. The fact that this girl found relief from her painful disorder by the use of gin or whisky, settles the question as to the form of dysmenorrhœa to which she was subject. But her experience is of little use to us except in a diagnostic point of view. No amount of gin would have cured her, nor have we the exact counterpart of either of these stimulants in any of our attenuations. The essential hint derived from what she told us on her first visit, was that her dysmenorrhœa was local, spasmodic, and therefore of a purely nervous character. This temporary lesion was engrafted upon the hysterical temperament, and that was all there was of it.

The effects of the gin are diagnostic.

If she was a married woman, and had borne children, the case would have been different, for a pure spasm of the cervix which is sufficient to obstruct the flow, and which is independent of uterine flexion, is very rare with those who have ever been pregnant. Under those circumstances a local examination would have been necessary before we could have decided upon the nature of the difficulty.

Exceptional hint.

If this patient had been placed under the influence of opiates, anti-spasmodics, or the more fashionable hypnotics, the result would have been the same as when she took the gin, and the relief would have been transient. There is no doubt that, given in this manner, such remedies often work mischief.

Effects of opiates etc.

The hysterical excitement at the approach of the period, the hyperæsthesia of the cutaneous surface, and the relief afforded by

sleep, furnish the prominent indications for the remedy that was given her. The headache that followed was not due to a medicinal aggravation, although it might have been a consequence of having taken ignatia. In cases of a true medicinal aggravation some of the original symptoms must be increased in severity; but here we have a new symptom altogether; a state of things which does not contra-indicate the continued use of the remedy. My own experience has led me to conclude that a proper discrimination in this regard is sometimes very important in the treatment of the diseases of women. It is not always best to stop the use of the remedy directly there are signs of its "taking hold."

Hysterical indications for ignatia.

Medicinal aggravations.

My recommendation for gelsemium, to be taken *during* the flow is based upon the observation that it is adapted to overcome any disposition on the part of the cervical fibres to contract and to cause the flow to intermit, which state of things sometimes induces a local spasm of the neck of the womb. These are cases of spasmodic dysmenorrhœa for the relief of which gelsemium is prompt and effectual. It is adapted to hysterical women who suffer severely in anticipation of the flow, and who in consequence of a delay, which is not the result of a displacement of the womb, of a polypus, or of atresia of the cervix—are kept on the verge of spasms, wakeful, restless, neuralgic and wretched. The indication is strengthened by the occurrence of occasional attacks of ovarian neuralgia, or by a morning diarrhœa, and also an hereditary tendency to rheumatism.

Gelsemium.

There is quite a list of remedies that have been recommended and extolled for the cure of this form of dysmenorrhœa; but in order to prescribe them intelligently, you will need to search for their special indications in any given case. The list includes, aconite, agnus cast., ammonium carb., apis mel., atropine, belladonna, cactus grand., cannabis ind., caulophyllum, coffea, collinsonia can., macrotin, hamamelis, hyoscyamus, lilium tig., moschus, natrum mur., platina, pulsatilla, thuja, veratrum alb., viburnum opulus, and xanthoxylum

Other remedies.

Dr. Jousset has often succeeded with magnesia carb. where the periods are tardy and where, owing to the pains, the flow is arrested.

Dr. Richard Hughes says that "When it is rather the uterus

which suffers neuralgic pain in the performance of its monthly function, chamomilla and coffea are recommended; and will often (the former especially when the temper is much disturbed by the suffering) give full satisfaction. Should they not succeed, or should the general hyperæsthesia calling for either be absent, I can commend to you the xanthoxylum frax. I am in the habit of giving this medicine in most cases where dysmenorrhœa co-exists with some degree of neuralgia; and can speak of several cures with it. If Dr. Massey's key-note for it, "prolongation of the pain down the crural nerve," is confirmed, it would seem to correspond to ovarian dysmenorrhœa also."

In some cases galvanism is curative, and in others, hot baths, electric baths, and Dr. Chapman's hot-water bags are all that can be desired during the paroxysm. A few cases will be relieved by marriage and maternity, but sometimes they fail of effect, or they may increase the difficulty.

Battey's operation for

In very exceptional cases, when the patient is of an hysterical diathesis, and the conditions have prevailed for a long time, a neurotic condition may have been developed that will not respond to the best medical and moral treatment that can be applied. In some of these cases the dysmenorrhœa is the exciting and relapsing cause of neurasthenia, of mental perversion and even of convulsions, in which the suffering is wearing and exasperating to the last degree. Although it sometimes fails, this neurotic condition is often cured by a resort to oöphorectomy, or the removal of the ovaries and the oviducts. I shall speak of the special indications for this operation at another time.

LECTURE XIII.

MEMBRANOUS DYSMENORRHŒA.

Membranous Dysmenorrhœa. *Case*—Causes, anatomical peculiarities of the Membrane, its clinical confirmation. Shape and size of the Membrane. Its expulsion practical deductions. Diagnosis from Abortion. Special Therapeutics. Other expedients. The sponge tent.

I will invite your attention this morning to the following remarkable case, which is reported by the patient herself:

Case.—I was born in July, 1834, in C——, Ohio. Soon after my birth an eruption made its appearance on the skin, resembling rash, occasioned, it was then thought, by the extreme heat of the season. I passed the usual diseases of children very early in life, and, with the exception of this eruption, which appeared almost every year during the summer months, and generally upon the lower parts of my limbs, I was a vigorous, active child, full of life and spirit, and in apparent perfect health. At the age of fourteen years and five months the menses made their appearance. The first discharge was plentiful, but attended with no pains or inconvenience whatever. One year after they were suppressed about three months—caused by thin shoes, wet feet, and not early acquainting my mother with the fact. I was soon set right with "Cooper's pills." I felt well during the suppression. At sixteen, while at boarding-school, my appetite grew voracious, and I ate immoderately of all kinds of food, pickles, and sweetmeats. The rash had somewhat lessened in its appearance each summer as I grew older. It was, however, upon my body one day when, just after dinner, in passing through a hall to which the outer doors were open, I met a furious gust of wind from an approaching thunder-storm. At the moment I noticed no uncomfortable sensation, but was shortly seized with great difficulty of respiration and extreme prostration, and in less than an hour my life seemed hopeless to those around me. This was the first attack of anything like illness since my babyhood. Two physicians were speedily called, who said, "the rash had suddenly struck inward." Two days before this I remember to have been very nervous, so

that I could not go to sleep on retiring, but did not know that anything ailed me. The doctors gave me tumblers full of a mixture of asafœtida; valerian was also given. I do not know what else was administered, as I was only partially conscious. My suffering was almost wholly from the gasping and struggles for breath. The rash never made its appearance again until I was thirty-four years old. I was left weak and sick (*I* think, from the effect of the dosing). It was one or two days before I could be removed home. Very soon my monthly period came on, attended with some pain. My mother told the physician, and he gave me hyoscyamus. My school days ended with my first illness. I was never able to return to school-life again. The remainder of that summer I was weak, and very nervous frequently; had severe palpitation of the heart, and often could scarcely control my limbs and face from twitching violently, which they sometimes did in spite of me. The physicians prescribed for "nervous paroxysms." "constipation," and "general debility." I took quantities of the different preparations of iron and nervines. One medicine was to be dropped, "eighty drops every two or three hours." I knew nothing of modern glass-drop measures, and went entirely through the "dropping" ordered each time as prescribed. During the following eighteen months dyspepsia and nervousness were my prominent troubles; also obstinate constipation, occasionally having some pain at my menstrual periods, which grew somewhat irregular; but I entered into the usual duties of life, and passed for being in pretty good health.

I was married at eighteen. After marriage, nothing about my menstrual periods attracted my attention for three months, when I passed over seven weeks without them. My form grew somewhat fuller, and I craved certain articles of food. I took "Cooper's pills" at my own instigation. When the discharge made its appearance it was attended with great pain, so that I was obliged to go to bed. I felt very sick, and a physician was called — one whom I had never seen. He gave me soothing medicine, but never said what ailed me. He attended me several months, but never inquired about anything but my constipated habit, and the nervous condition of my system. The following monthly period I was able to keep out of bed by taking spirits of camphor, which he gave me, very often through the day. During that year I had severe nervous paroxysms, violent jerking of the limbs and body, especially at night. In a few months I suffered extremely with every menstrual period the first twelve or twenty-four hours.

I then went to C——, to the care of the physician who had attended at my birth, and had known me all my life. He was the first who made vaginal examination. He reported a partial "retroversion of the uterus," and said I had "ovarian tumor." I went

through a long series of blisters on my spine and abdomen, purgatives, etc. I was in his care more than a year. As I could not live in the city, I was not constantly with him. I never could myself discover the slightest soreness or enlargement in the ovarian region, and wondered that I could find no evidence of the tumor. About this time I began suffering with what seemed to be rheumatism in my right limb, particularly when on my feet, or standing much. I rarely ever had it when warm or in a reclining posture.

In a year or more I grew weary of going into C——, of blistering and doctoring, and did without professional aid for a year or two. I did better without it than with it, as my general health was better. About this time, I once took chloroform to have a tooth extracted. It was with great difficulty that I was revived from its effects, and for sixteen hours I kept constantly sinking away.

I next went to R——, to a physician. He found "the uterus hardened at the neck and too low in the vagina." He first gave me a violent emetic, used electricity, had my whole body daily rubbed with No. 6, and like stimulating liniments, and put a Banning's body brace upon me. I took a great deal of macrotin, tonics, etc. His treatment, which continued several months, improved my general health more than any I had had. Yet my menstrual flow did not come right. Finally, he one day ran his fingers violently through his hair, and said "he could not see what *did* ail me."

I went home discouraged, and again did without medical aid for two years more. Indigestion, cold feet, rheumatism, attended by the whole train of disorders of the nervous system, had been, and was, my constant experience. I rarely ever had any pain in my head or spine, after the first year of my married life. A naturally gay temperament, a great love of fun, horseback riding (of which I was very fond), carriage driving, travel a part of every year, with never any very laborious household duties, probably kept me from becoming a bedridden invalid.

On removal into the city of C—— I again sought professional treatment. I had then been married six years. Faithful adherence was made to injections of rose-leaf tea, and numerous other local remedies, and a gold pessary was introduced. Finally, after nearly two years of constant treatment, it was satisfactorily discovered that I had "rheumatism of the womb." I was under the care of this physician for six years, and took a great deal of medicine — I think considerable quantities of gum guaiacum in brandy.

The year of 1865 I traveled in Europe, and some in our own country. I have always borne travel well, enjoyed it thoroughly,

and fellow-travelers seldom have discovered that I was not in health.

In February, 1868, I removed to Chicago. The cutting winds affected me so that in less than three weeks I dreaded to go out of doors — they seemed to search my very bones. A thirst which could not be satisfied soon set in, and, shortly, a retention of urine, with rheumatism in my whole *right* side. I was very sleepless. The atmosphere seemed too cold for me to breathe, and I was obliged to cover both head and ears to get sleep at all. I found temporary relief in short, repeated visits to Cincinnati and Springfield, Illinois. In May I had several large carbuncles, during which my indigestion and other difficulties were much relieved. About this time I frequently felt sharp pains about my heart, and sometimes a sense of dizziness, which soon left me if I laid down for five minutes. I often would catch my breath in going about in common employments, and drew long, deep sighs in my sleep. I was nervous and wretched — and the monthly period was attended with increased suffering.

In July I went to the sea shore, as had been my custom for several years, and from which I had always returned in much more comfortable health. The weather during the journey was *exceedingly* hot, the warmest known for years. On reaching Philadelphia by a morning train, with scarcely a dry thread upon me from perspiration, I found my body covered with rash or prickly heat, which I had not seen for eighteen years. It did not wholly disappear at once. I had passed through the catamenial period just before leaving home. We reached the sea-side, and the sea-breeze was, as usual, invigorating and refreshing to me. I bathed for one week. I was very fond of swimming, but found the exercise too severe for me, and, this time, could not practice it at all. On retiring one night I found a steady pain in my left breast. I took little notice of it, supposing it to be caused by indigestion, or pleurisy. It often awakened me during the night, but by putting my hand on the spot and warming it, I dropped to sleep. Next morning I folded a flannel several thicknesses and put over it, dressed, and ate my breakfast, as usual. Soon after breakfast I was seized with the pain *most violently*, and seemingly in the region of the heart. In ten minutes I was prostrate. A mustard plaster applied increased my suffering fearfully. Dr. B., of Philadelphia, was summoned, and a young physician was present. Dr. B. at once pronounced the attack "rheumatism of the heart." The pain once suddenly went to the bladder, causing excruciating agony. A very copious discharge of urine soon followed, and the distress was again in the heart. I was relieved by aconite. In two weeks, at Dr. B.'s urgent advice, I was taken to Capon Springs, Hampshire county, Virginia. This

spring is celebrated for its use in "the different forms of dyspepsia, and as a remedy in gravel its virtues are said to be unquestionable,' while externally applied in the shape of cold or warm baths, its results "are proved beneficial in rheumatism and diseases of the skin." I spent three weeks here, and my heart was entirely relieved; but, after leaving, I was again attacked, in about a week, in the city of Brooklyn. The medical attendant there never said what he thought my disease was, but "supposed my trouble proceeded from the spine." He was positive there was no disease of the heart.

All the physicians said I must not return to the climate of Chicago, so I went to my relatives in the west, to R——, where I was attended by a physician two months. There was a great deal of soreness to the touch about my heart, with constant, severe pain, and I could not endure a breath of outside atmosphere, though it was only the first of October. He said I had "angina pectoris," and "hydro-pericardium." I had noticed I suffered more with my heart about the time the menses made their appearance—generally a few hours before, and I asked him to find whether there was not something wrong in connection with the uterus, as I had had no attention to that organ for five years. He made examination and told me I "was all right there."

Suppose we recapitulate the chief points in this case, which our patient has detailed in so interesting and truthful a manner. Her first menstruation was prompt, plentiful and painless. One year later, amenorrhœa (suppressio mensium), from cold and wet feet. At sixteen inordinate appetite, the rash declining—sudden and severe illness from repercussion of the eruption, which did not reappear for many years—inveterate and inexplicable nervous symptoms. After marriage, at eighteen, menstruation normal for three months—then seven weeks' interruption—"female pills"—illness. After this, painful menstruation each month—another physician, diagnosis of retroversion with ovarian tumor—blisters—purgatives, etc., for a year—apparent rheumatism in the right limb, worse on standing, relieved by warmth and rest in the reclining posture—was a confirmed invalid at twenty, but disabled only for the first few hours of the "period"—abandoned all treatment for a year or two, and improved in consequence—another doctor; diagnosis, induration of the cervix and prolapsus—emetics, electricity, friction, an abdominal harness, macrotin tonics, etc.,—improvement of general health, but the menstrual

disorder unchanged — the doctor at his wits' end — abandoned all treatment for two years more — nervous disorders continue — still another physician — two years treatment and a diagnosis of "rheumatism of the womb" — continue treatment four years more (six in all) — with a faithful trial of Dewees' prescription of guaiacum — 1865 in Europe — 1868 removed to Chicago — prairie winds in spring unfavorable — critical and salutary boils — increased cardiac trouble — rheumatism of right side — monthly symptoms worse — goes to the sea-shore in July — after a copious perspiration the eruption, which had not been seen for eighteen years, makes its appearance — cardiac paroxysms at night and next day — alternation of rheumatic pain in the heart and bladder — relief from aconite — the mineral springs improve the heart symptoms — one more doctor and another diagnosis.

The additional particulars, of clinical interest, which were given me when I took charge of this case, are the following:

About five months after her marriage she commenced passing membranous shreds, and since then has never escaped more than two consecutive "periods" without them. The size and firmness of the shreds vary at different times, but they are not larger, nor is the suffering relatively greater at the next period, after passing one month without them. The degree of pain and discomfort vary with the presence or absence of the membrane, and also with the amount of exercise taken at the time the flow commences. If she lies in bed for a day or so, there is little relative suffering. Although she had frequently spoken to her physicians of these membranes, only one had concerned himself about them, and he had decided, in an off-hand way, that they were the result of a miscarriage. None of them ever made any inquiry with respect to the character of these products, and until I procured this first specimen for microscopical examination, no one, except the patient and her husband, had ever seen them.

Upon careful inquiry, I learned that she suffered at times, usually some hours in advance of the flow, from a circumscribed pain in the right ovarian region. She could cover the spot with the tips of her three fingers. The pain would radiate somewhat, and extend thence along the limb. It was invariably worse in damp weather and after exercise.

While the cardiac symptoms were more or less constant, they were greatly aggravated at the month. Indeed, her sufferings at this time were extreme and alarming. She had discovered that aconite 2nd would relieve this distress in a very few minutes, but disliked to take it on account of unpleasant symptoms, which

almost invariably followed some hours after. The chest had been most carefully wrapped in flannels. The slightest change in her clothing or exposure resulted in her taking cold and in an increase of suffering. Daily and prolonged friction, with stimulating liniments, had been resorted to in order to keep the blood in motion. The spine was exceedingly sensitive to pressure throughout its whole extent, for the relief of which porous plasters had been worn almost constantly for months.

I found the uterus so prolapsed that, unless it was supported by a sponge, pessary or tampon, which she had worn habitually for years past, she could not stand or walk. With this deviation of the womb there was more or less of strangury, which at times annoyed her exceedingly. She has never borne any children.

This case presents some striking practical facts. It illustrates that one physician, and sometimes a number of them in turn, may be deceived concerning the nature of the disease which they have been called upon to treat. It shows how the reflex and secondary phenomena dependent upon uterine disorder may mislead the practitioner; and how apt the most experienced in our ranks are to overlook the most important symptoms, while at the same time they put great stress and emphasis upon such as are merely incidental.

Membranous dysmenorrhœa is a rare affection, and, when it does exist, is very apt, as in this case, to have continued for some years before being recognized. In exceptional cases, it occurs in young girls, but is usually met with in married women. In the majority of instances it begins soon after marriage, when it is accompanied by such slight symptoms as to be deemed of little consequence. Under these circumstances, it is usually regarded as the sequence of an early abortion.

Rare — may be overlooked.

We have to confess that the special pathology of this disease is not very well known. Dewees and others have taught that it occurs most frequently in women of a rheumatic diathesis. Some authorities insist that the membranous formation, which is its chief characteristic, is always the product of conception. But this cannot be true, for it may occur in the virgin, and also in those who have for many months abstained from sexual intercourse. It is the commonly received opinion that, while in its beginning it may date from a

Causes.

miscarriage, the continuance of the complaint is not necessarily connected with conception.

Others hold that the membranous product results from uterine inflammation. Upon this theory a recent author proposes to style the disease "endometritis epithelialis." But it is not of the exfoliation of the epithelium merely that we are speaking. That may, and often does, occur in healthy menstruation. Oldham and Tilt refer the exfoliation of this membrane to the morbid influence exerted upon the lining membrane of the womb by disease of one or both of the ovaries. In rare instances, it may originate in syphilis. Sometimes it is related to a cutaneous eruption which has been repelled from the surface, with the appearance of which its symptoms seem to alternate.

Here are two excellent specimens of the membrane which this patient has expelled with the menstrual flow. Let us examine into its anatomical peculiarities. The old authors thought it to be a kind of croupous deposit upon the uterine surface: They talked wisely, as some surgeons do in our day, of the spontaneous organization of coagulable lymph into a pseudo-membrane. Dewees even suggested that these membranes might be formed from the lymph contained in the menstrual blood.

Anatomical peculiarities of the membrane.

If we compare this membrane with the decidua vera in the early weeks of pregnancy, we shall discover an exact correspondence. It is triangular, smooth within, and rough and villous on the outer surface. If the entire cast has come away, or if we can place the shreds together properly, we shall find the three orifices corresponding with the internal extremities of the Fallopian tubes, and the os internum of the uterine cervix. Moreover, here are numerous little openings through which the utricular glands have discharged their product. The microscope proves these membranes to be identical in structure. And their histological elements are precisely the same as those of the uterine mucous membrane also.

Identical with decidua vera.

It is undoubtedly true, therefore, that the decidua menstrualis, as Virchow named it, is not a new or heterologous membrane which is formed and expelled the womb at each menstrual period, but the altered lining of that cavity, which has been cast off by a species of physiological moulting.

Now, inflammation is not a factor in the organization of the decidua menstrualis, any more than in that of the decidua vera, or the outer envelop of the embryo. It is, indeed, incidental to both these processes, but it is not necessary to either of them.

Inflammation is accidental.

There is, therefore, something plausible in the theory of Oldham, that ovarian influence has much to do with the frequent exfoliation of the uterine mucous membrane in this class of subjects. In case of conception, this influence undoubtedly initiates those changes which finally develop the decidua vera before the fecundated ovum has dropped into the uterine cavity. And do you not perceive that a slight perversion of function in the ovaries may induce a similar physiological change in the uterine textures as a contingent of menstruation? In the former case, the egg is retained throughout the period of gestation, and finally extruded at term. In the latter, it must escape, with its accompanying flow, as soon as practicable. In both, the deciduous wrapper is sooner or later expelled.

Oldham's theory of ovarian influence.

This view has its confirmation in such clinical facts as the following: When the "period" sets in, the ovaries are often found to be swollen, tender, and the seat of discomfort. In a majority of cases there is considerable pain in one ovarian region (usually the left), which persists until after the escape of the flow, and of the shreds also. Grailly Hewitt is quite emphatic on this point and its significance:* "There is often pain in one or other ovarian region; and it appears reasonable to conclude that in some way or other this pain is connected with the formation of the membrane. The intimate functional relation between the ovaries and the uterus lends support to the view that in a morbid condition of the ovary — a functional perversion, so to speak, of its influence over the uterus — we have an explanation of this abnormal occurrence."

Its clinical confirmation.

The single pathognomonic symptom of this disease is the discharge at the menstrual period of such a membrane as is shown you in this specimen. Sometimes, although rarely, it comes away in the form of a sac, or complete cast of the uterine cavity, in which case it may be mis-

Clinical history.

* The Diagnosis and Treatment of Diseases of Women; London, 1863; p. 479.

taken for a mole. Usually, however, it is in shreds and pieces, which vary in size from that of your thumb nail to two or three square inches. These pieces may be so regularly formed that you can place them together in such a manner as to be certain from the triangular shape of the mass, as well as from other characteristics, that the womb has been stripped of its lining membrane throughout. In some cases a very considerable quantity of this menstrual decidua is thrown of.

Shape and size of the membrane.

It may happen that this membrane will be seen but once in the same patient. Or it may be observed each month regularly in others. Sometimes it appears at alternate months, and again only once in three months. In the case which I have just detailed, my patient did not for many years pass more than two consecutive "periods" without their being present. And this under every variety of climate and external circumstance.

Regularity of its appearance.

The subjective symptoms vary in different cases. Beginning usually with a delay in the appearance of the accustomed menstrual flow, the suffering is analogous to that in an early abortus, and in other varieties of dysmenorrhœa. Subsequently it will be modified by the condition and susceptibility of the patient, as well as by the size of the membrane to be extruded, and the ease of dilatation of the cervical canal through which it must pass. Some women suffer as severely as they would in labor at term. As I have already said, the ovarian pain is seldom lacking. One of my patients finds her suffering greatly mitigated by lying in bed for one or two days when the "period" arrives. And the patient whose case is under review has remarked that, when she ate very lightly, the menstrual suffering was very much lessened. In her experience, a hasty meal taken immediately before the catamenial flow occasions extreme suffering. Scanzoni reports that two of his patients "could always say, with perfect certainty, one or two weeks before the return of the courses, whether or not they would pass membranes. Every time that this was the case they experienced for one or two weeks previously, a sharp, pinching pain in the umbilical region."

Its expulsion.

The quantity of blood discharged in such cases is in excess of

that proper to healthy menstruation. This can be readily explained as the consequence of detaching the lining membrane of the womb from a sub-mucous surface which is unusually vascular. It corresponds in every way with the hæmorrhage incident to abortion prior to the formation of the placenta. Sometimes the flow is profuse and alarming, but as a rule it is held in check by the contractile efforts of the womb to dislodge and expel the membrane. When this has escaped, it usually, but not always, ceases. Where some small shreds are retained, there is danger of subsequent loss of blood. In women of an hæmorrhagic diathesis, the flow may degenerate into a passive hæmorrhage and continue during the inter-menstrual period. In case the decidua menstrualis is not cast off, but remains until the next month, as sometimes happens, the flow may be scanty in amount at one period and copious at another.

The 'flow' proper.

The reflex nervous symptoms which are present in this form of dysmenorrhœa vary in different persons. In some the stomach is the focal point of disorder, and a most intractable vomiting results. Our patient has suffered from this symptom for nearly a fortnight at a time. In others, the greatest care is requisite to avoid severe fits of indigestion. A majority of these patients are habitually costive.

Reflex gastric symptoms.

If she is of a rheumatic diathesis, the cardiac symptoms may be so pronounced and so clamorous as to lead to the belief that the heart is the real seat of the difficulty. It was this state of things which induced my predecessors in the management of Mrs. ——'s case to form an incorrect diagnosis. In the frequent recurrence and severity of her paroxysms of dyspnœa, the palpitation, cardiac pain, oppression and perturbation, there were evidences of functional derangement, but of nothing more serious. The doctors must have drawn on their imagination for the physical signs of organic disease of the heart. At least, I have examined her repeatedly, and most carefully, without being able to discover any lesion of the valves, of the pericardium, the endocardium, or of the parietes of the heart. Moreover, as soon as she was put upon the remedy which was appropriate for the relief of the menstrual disorder, the cardiac symptoms vanished.

Reflex cardiac symptoms.

You should bear in mind that the remote symptomatic affections

of the heart, and of other organs, which are dependent upon uterine disease of whatever variety, are invariably aggravated at the month. Indeed, in most cases, they intermit and return as regularly as the menses themselves. Independently, therefore, of the presence of the decidua menstrualis, this one circumstance would have led any one of you to infer that in this case the heart symptoms were reflex, and not idiopathic. It is true, however, that organic disease of the heart may finally result from such an indirect cause, when that cause is in almost constant operation for many years. But such cases are exceptional.

Practical deductions.

As in other forms of dysmenorrhœa so in this, uterine displacements, more especially prolapsus and retroversion, are very apt to result. In some cases the most obstinate and distressing anteversion has been caused by membranous dysmenorrhœa. Either and all of these deviations increase the difficulty and embarrass the treatment. Fibroids, polypi, metro-peritonitis, endo-metritis, and endo-cervicitis, are also coincident diseases.

Consequent uterine affections.

You would diagnosticate a case of membranous dysmenorrhœa from one of abortion, by the regular return of the monthly period, by the membrane usually coming away in shreds, or if it were entire, by the sac containing no rudiment of an embryo or of other membranes enclosed within it, and by the perforated, sieve-like appearance of the membrane itself. These symptoms, however, are not positive, for the patient might abort exactly at the first month; or, because the ovum is sometimes dissolved, the sac might be empty. But it would be quite extraordinary and unprecedented for one to abort each month regularly.

Diagnosis — from abortion.

The only danger is from concomitant disorders. The patient might possibly die from hæmorrhage, but that would be very rare. A continuous and copious loss of blood might so undermine the general health as ultimately to endanger life. Or real organic disease of the heart, lungs or stomach, or even of the brain or spinal cord, might finally develop and destroy it. In the case of patients who are approaching the climacteric, your diagnosis should be guarded. It is very probable that, could they be seen at an early date in the history of the

Prognosis.

disease, most cases would be curable. Sterility is an inevitable, but not always an incurable, consequence of membranous dysmenorrhœa.

Treatment. — The proper management of this disease will draw largely on your skill, your professional knowledge and experience, your tact, your deliberation, and your patience. You will have to consider the modifying influences of the rheumatic diathesis, of the abortive tendency, the ovarian disease, the repelled eruption, the reflex complications, and even of secondary disease in the uterus itself. There is no specific treatment which is suited to all cases of membranous dysmenorrhœa alike. An exclusive idea of its therapeutics would certainly mislead you.

General therapeutics.

Some cases of this disease are undoubtedly rheumatic, while others are not. The susceptibility of our patient to the damp, chilling prairie winds in the spring, the fugitive pains in her chest and right limb, the cardiac symptoms, and the relief afforded to all these by removal to a milder and more equable climate, betray the rheumatic complication. These and similar symptoms in one who was predisposed to rheumatism, would suggest such remedies as aconite, bryonia, rhus tox., nux vomica, mercurius and macrotin. Care should also be taken to protect the patient against the harmful influence of exposure to storms, or sudden and extreme vicissitudes of weather. She should be warmly clad, and in a measure insulated by flannel or silk wrappings. Above all things, the night air is especially injurious to this class of subjects.

Special therapeutics.

For rheumatic complications.

In a few women, the tendency to a periodical exfoliation of the uterine mucous membrane constitutes a species of dyscrasia. If these persons conceive, they are very likely to abort; and if they do not become pregnant, they are fit subjects for the disease in question. This abortive habit is a powerful predisponent of membranous dysmenorrhœa. Most of the hints which are applicable to the prevention of threatened abortion are equally appropriate here. I need not pause to detail them,

For the abortive dyscrasia.

It may happen, in exceptional cases, that the character and history of a repelled eruption will point out the proper remedy.

When this patient placed herself in charge of her last physician, she was put upon sulphur 30th, with prompt and evident relief of all her symptoms. This was prescribed on account of the chronic nature of her disease, and its manifest relation to the eruption which had been repelled. A few doses of apis mellifica 3d were then given for the ovarian pains, the urinary trouble and the cardiac symptoms, and she was finally ordered calcarea carbonica 12th, which she is now taking.

In case of repelled eruption.

In so far as the reflex symptoms are concerned, there are but very few of them that are distinctive, suggestive, or reliable. They are quite too sensational to be trustworthy. You cannot depend upon them as indicating the suitable remedy, any more than upon a majority of similar symptoms in hysteria.

Reflex symptoms irrelevant.

The ovarian lesion and its symptoms are more significant. For. in most cases, if we can recognize and remove them, we may hope to cure the menstrual disorder. Apis mellifica, calcarea carbonica, platina, belladonna, colocynth, lachesis, thuja, kali jodatum, mercurius, or hamamelis, may be appropriately and successfully employed.

For the ovarian symptoms.

Since we understand the origin and structure of the decidua menstrualis, the stereotyped advice to employ such remedies for the cure of this disease as are given in pseudo-membranous croup and diphtheria, would be of very doubtful service. For other reasons than those usually given, it is possible that in some cases the bichromate of potassa, mercurius jodatus, cantharis, ammonium causticum, or even the chloride of lime, might prove serviceable. In a case of this disease, Dr. Mandl,*, however, applied the kali chlor. directly to the uterine mucous membrane, at short intervals, for the space of ten months. The effect was to interrupt the formation of the decidual product while he continued the application, but as soon as he desisted, it was formed and expelled as before.

An antiquated prescription.

There is no evidence that local applications to the uterine sur-

* Wiener Med. Wochenschrift, No. 1, 1869.

face have ever accomplished any more in this disease than in the case just cited. The good they do is temporary, and even this is more than counterbalanced by the risk attending their application; for you may take all the precautions prescribed, and yet, as a rule, they are not safe or advisable.

Local applications are of temporary benefit.

Marriage has sometimes been prescribed as a remedy for this disease, but it is an unwarrantable expedient, and is very likely to aggravate the complaint. Conception may cure it, provided the patient can go to term. It may be indispensable to the cure that she should live absque marito. Or we may prescribe that intercourse shall take place only at long intervals.

Other expedients.

Very decided benefit may sometimes be derived from the employment of the sponge-tent, with a view to dilate and remove any obstruction of the cervix which prevents the free escape of the menstrual blood. This would cause the womb to disgorge, unload its capillaries, relieve the hyperæmia, avert an excessive hypertrophy of the mucous membrane, and possibly prevent its exfoliation. Moreover — and it is by no means an inconsiderable thing — this dilatation greatly mitigates the sufferings of the patient. I applied the tent repeatedly, and with excellent effect, in the case of which I have now spoken to you at such considerable length.

The sponge-tent.

[One of the most interesting cases in the woman's clinic was No. 17,027. The patient came to us with *psoriasis guttata*, the eruption being on the arms and chest. For five months it had alternated with the expulsion of membranous shreds and clots. The menstrual obstruction was accompanied with labor-like pains and suffering, which continued for several days, during which time the cutaneous eruption disappeared. She first took arsenicum 3, and afterwards the 30th, with excellent effect. The irritation of the skin was relieved and cured by dulcamara 3.]

Psoriasis and memb. dysmenorrhœa.

LECTURE XIV.

MEMBRANOUS DYSMENORRHŒA—CONCLUDED.

Membranous dysmenorrhœa arising from repelled eruptions, from the repercussion of cutaneous eruptions; *cases;* sterility as a sequel; statistics; result of treatment, etc.

In July 1876 I had the honor of reading an essay upon this subject before the International Homœopathic Congress which had convened in the city of Philadelphia. The views expressed in that paper have been confirmed by my subsequent experience, and I venture to give you the substance of that report this morning.

Not the least curious and wonderful of all the physiological processes known to us is the periodical development of the lining membrane of the uterus. This process of "nidation," or nest-making, is as essential a factor in menstruation as it is in generation. If it occurred only once in a year, as in the œstruation of animals, it would still be remarkable for its delicacy, and for the peculiar contingencies with which it is beset. But, in woman, its monthly repetition multiplies the risk of its becoming disordered, and there are comparatively few who pass through the whole period of menstrual life without suffering some of these consequences.

Nidation.

Membranous dysmenorrhœa is not so well understood, nor so skillfully and successfully treated as other kinds of painful menstruation. This fact is partly due to its relative infrequency. For, compared with the spasmodic and obstructive varieties it bears about the same proportion that cases of breech presentation do to those of the cephalic extremity.

Comparative infrequency.

Now that the shreds, or casts, thrown off in this disease are known to be caused by the exfoliation of hypertrophied mucous membrane of the uterus, and not by the exudation of lymph, and the formation of a new or croupal membrane, its morbid anatomy is very much simplified. And the fact that this product is decidual

and not diphtheritic, homologous and not heterologous, is destined greatly to modify its special therapeutics.

But, however great the advance that has already been made, the etiology of membranous dysmenorrhœa is incomplete. For, although the felt-like shreds, or strips, which are moulted in this disease are recognized as portions of the menstrual, or nidal decidua, it still seems practically impossible for physicians to separate in their minds the formation of this product from the existence of the inflammatory process. The most recent author even proposes to style it an epithelial endometritis (endometritis exfoliative).* On the one hand he declares that the sieve-like casts and pieces, consist of the hypertrophied mucous membrane which, from the rapid production of free cells, is detached and thrown off at stated periods; on the other, that the process is inflammatory and exudative, and not a mere exfoliation. Experience proves, however, that while a woman with membranous dysmenorrhœa may also have endometritis, she is quite as likely to have ovaritis, or even endocarditis as a coincident affection.

Non-inflammatory.

Accepting the view of Oldham and others that the cause of this disease may frequently be found in ovarian irritation and inflammation; the idea of Dewees that the rheumatic diathesis is responsible for its existence in a certain proportion of cases; and the more modern claim that it may be caused by uterine deviations, my experience leads me to conclude that there are some examples of this affection which are inexplicable and incurable by, or through, either or all of these different theories. In other words, these theories do not apply to all cases indiscriminately.

A variety of causes.

The most intractable cases of this singular affection that have come to my knowledge have been associated in their clinical history with the existence and sudden disappearance of a cutaneous eruption. This eruption may, indeed, have been slight and possibly have been forgotten by the patient herself. It may also vary in its character in different persons, being either papular, herpetic or vesicular, squamous, syphilitic, or erysipelatous. In one of my cases it was a "rash, like prickly heat;" in another, the patient was positive

From cutaneous eruptions.

*Dr. Beigel, in the *Archiv. fur Gynakol.*, Band ix. Heft I.

that she had once had the "hives," and that her menstrual difficulty followed directly upon their being "driven in."

Sometimes the appearance of this eruption upon the face, hands, or body, alternates with the menstrual disorder; but more frequently, unless medicines have been taken to "drive it out," no trace of it can be found at any time. In one case of erysipelas of the legs and thighs the lesion extended to the genitals, and to the womb, and a membranous dysmenorrhœa of six years standing was the direct result.

In one of my patients, who was very ill with this form of dysmenorrhœa, the repercussed eruption had not been seen for eighteen years until it blossomed out as the result of my treatment; and I have recently cured another in whose case the "salt rheum" had disappeared twelve years before, with the immediate advent of shreds and bits of membrane in the monthly discharge.

Case.

The comparative frequency of cases of this kind, which have been more or less intimately associated with skin affections, precludes the possibility of their accidental relation. For, out of twelve cases of real membranous dysmenorrhœa which I have treated within the last five years (1876), eight of them have been of this sort. In this list I do not include those milder cases which are very much more numerous, and in which there is merely an increased desquamation of the uterine epithelium in the form of diaphanous shreds, or patches. This contingent of menstruation is sometimes met with in uterine deviations, catarrhal endometritis and menorrhagia, and is much more easily cured.

Statistics.

Sterility is as common and constant a symptom of membranous dymenorrhœa as is the shedding of the membrane itself. And there can be no better guarantee of the cure of a case of this form of dysmenorrhœa than is furnished by a fruitful conception and labor at term. The clinical history of barrenness often includes the history of old skin affections which, in some unaccountable way, have interfered with the function of reproduction. The remarkable effects of certain mineral waters as a cure for sterility, and for complicated disorders of the catamenial function, can best be explained by their value in some chronic cutaneous diseases which have first been repelled, and then resisted other modes of treatment.

Sterility as a sequel.

Anatomically the epithelium is the epidermis of the mucous membrane. Clinical experience has long since demonstrated the mutual sympathy and morbid relations of these two surfaces.

The skin and the uterine mucous membrane.

The occurrence of a metastasis of disease from one to the other is in no wise rare or remarkable. Indeed it is very common, more especially in cases of those membranes which, like the lining of the nose, of the throat, and of the utero-vaginal tract, are in direct continuity with the external integument.

The modern classification and description of skin affections is quite in accord with the idea that, under certain circumstances, almost any of them might be translated to the uterine mucous membrane. The moment we define eczema as "a catarrhal inflammation of the skin,"* we have declared upon its proneness to migrate from the outer to the inner surfaces of the body, and to work mischief in them.

Manifestly, the internal lesion, which is due to this cause, will be intractable, if not grave in character, in ratio with the delicacy of the function involved. For the monthly formation, enlargement, separation and reproduction of the uterine mucous membrane, its progressive changes, its restrogressive or fatty degeneration, and the escape and cessation of the flow are so many physiological steps, that such an invasion would almost certainly interrupt or modify. And it might very easily change the natural and proper exfoliation of the uterine epithelium at the month, into a morbid separation of the subjacent mucous layers, and the shedding of a thick and tough cast of the uterine cavity.

Practical deductions

That these identical consequences do sometimes follow the repercussion of an eruption, I am fully persuaded, not only because I have been able to trace the beginning of a membraneous dysmenorrhœa directly to such an accident, but also because I have found it possible to cure this secondary form of the disease through a knowledge of this fact, and by using it as a key to the special therapeutics of the case.

Two of my colleagues have recently consulted me concerning the best treatment for membranous dysmenorrhœa, each of them having a case of the kind under his professional care. The above

*A Handbook on the Theory and Practice of Medicine, by F. T. Robert, M. D., etc., p. 1018.

theory of its exceptional origin was explained, and they were asked to inquire particularly with reference to the clinical history of a previous or coincident skin affection. The following evidence afterwards supplied by these gentlemen, has the merit of being fresh without having been fabricated expressly to support the theory under consideration.

Corroborative experience.

Case.—This case is reported by Prof. G. A. Hall, M. D., whose notes read as follows: "Mrs. M., aged thirty-five years, resides in Chicago. The menses first appeared at thirteen years of age, and were natural until her marriage at twenty-two. She has two children, the first of which was born ten months after marriage, and the other three years later, with one abortion since that time.

"During her youth and up to the period of her first labor, she was troubled with the 'hives,' or nettle-rash, but after the birth of the child it ceased, and she had nursing sore-mouth for weeks. This was followed by a chronic diarrhœa, which lasted for several months. The tongue has remained soft, patulous, and spongy, and is sometimes slightly ulcerated.

After the diarrhœa was controlled, a small round spot, as big as a half-dollar, appeared on the inside of the left thigh. It came first before, and remained during the menstrual flow. It looked very red, and was attended with an intolerable itching, but it disappeared nearly three years ago, at the time of her miscarriage.

The latter was not painful, but after a moderate flowing for twenty-four hours, the embryo and placenta were thrown off intact. Ten days later she had secondary hæmorrhage which lasted for ten weeks. She was greatly reduced in strength, and has never fully recovered her health.

"Four weeks after the cessation of that flow the menses were resumed, and for the first time the membranous shreds and casts, of which I send you a specimen, appeared. Her appetite became morbid, and she craves starch and salt. Since her miscarriage she has never had the itching spot on the inside of the thigh, or anywhere else externally. The catamenia are now attended with moderate pain and flowing for three days, when the membrane is extruded, after which the pain ceases, and the flow continues for three days longer, but moderately."

Case.—For the details of this case I am indebted to J. E. Mor-

rison, M. D., formerly of Hyde Park, Illinois. "Miss G. M., twenty-three years of age, began to menstruate in her twelfth year. From her second year until puberty she had suffered from running sores, and occasionally from an eruption like bee-stings, with a fine rash over the body, but especially about the waist. For the first three years, or until she was fifteen, her skin was never healthy, nor was the menstruation either painful or too profuse.

"About this, time, however, the eruption would sometimes disappear from the external surface, and this change was always observed to increase the monthly pain. For the last four years, excepting only at very long intervals and temporarily, no sign of the skin affection has shown itself; but the dysmenorrhœa has become more and more pronounced. Within that time it has assumed the membranous form, and firmly organized shreds are thrown off at every return of the 'period.' Her suffering in that interval has been very severe, and thus far has resisted all medical aid."

Treatment.—Concerning the curative indications which are deducible from this bit of clinical experience, we have to acknowledge that as yet they are neither very explicit nor complete. To have treated only eight cases of this particular kind of membraneous dysmenorrhœa, and to have been consulted in perhaps a dozen others by letter and otherwise, does not warrant us in dogmatizing upon its special therapeutics. The temptation to speculate upon this subject, however, is very strong, but we forbear. For what a remedy "ought" to do, and what it really will do, are not always the same thing.

Where the precise character of the eruption which has preceded the menstrual lesion is unknown, we can not, perhaps, do better than to begin the treatment with the use of Sulphur. In the case already referred to, where the eruption had not been seen for eighteen years, this remedy, in the thirtieth dilution, had the desired effect, and produced a marked and lasting amelioration of the uterine symptoms.

But, if the nature of the eruption can be determined, either by direct inspection, when it crops out occasionally; through the description of an intelligent parent, or patient, who remembers just what it was; or, by the ferreting action of sulphur, we shall

know better how to proceed. In this case we venture to recommend the following practical hints for trial and confirmation, or rejection, as they shall prove worthy or otherwise.

If the eruption is, or has been, like urticaria, give arsenicum alb., rhus tox., or urtica urens.

If what is vulgarly called the "hives," apis mel. (in the third decimal trituration), belladonna, chamomilla.

If it is, or was, herpetic or vesicular, cantharis, rhus tox.

If squamous, or "scurfy," borax, arsenicum, nux mosch., dulcamara, silicea, sepia.

If scrofulous, and otherwise unclassifiable, sulphur, calc. carb., hepar sulph., mercurius.

If syphilitic, thuja, nitric acid, mercurius iod., kali iod., mezereum.

If from suppressed rubeola, or if it alternates with ophthalmia, pulsatilla; or, in the former case especially, cuprum acet.

If it is erysipelatous, belladonna, cantharis, rhus tox., apis mel.

Should further experience verify the importance of knowing that repelled eruptions do sometimes cause a membranous dysmenorrhœa, this limited and imperfect list of remedies will doubtless be very much changed and enlarged. It is not improbable that there are some medicines which, although they are not now supposed to possess any curative relation to the disease in question, may yet prove, through this general indication, to be very useful in its treatment. Among these are doubtless bromine, mercurius, bryonia, phosphorus, ustilago, and collinsonia canadensis.

There are undoubtedly good grounds for confidence in the virtues of calcarea carb. as a remedy in this particular variety of dysmenorrhœa. It does not appear to be suited to all cases, and certainly does not deserve to be extolled as a specific; but, when it is appropriate, its curative action is quite as marked as it often is in too frequent menstruation and in menorrhagia. I have no question that, as a uterine polychrest, it is possessed of an intimate and specific relation to the fatty changes which occur each month in the uterine epithelium, the physiological separation of which permits and provides for the exit of the menstrual blood from the surcharged capillaries. We have a forcible illustration of this quality of the calcarea, in its ability to discuss certain

morbid growths, which it resolves away through a similar metamorphosis; but more crudely, in the power of lime to detach the pseudo-membrane in croup and diphtheria. Our workers in the materia medica, and in gynæcology, should define this relation, and develop this suggestion.

The frequent indication for calcarea carb. in scrofulous and other skin affections, is suggestive of its value in the membranous dysmenorrhœa, which is secondary upon these eruptions. With the few exceptions in which I have prescribed the sixth or the twelfth attenuation, I have always given the third decimal trituration in these cases.

If we find, in a given example, that dysmenorrhœa due to this cause is complicated with ovaritis, or rheumatism, the prescription may need to be modified. But it should not be forgotten that ovaritis itself is as likely to result from certain suppressed eruptions as it is from the sudden metastasis of a gonorrhœal inflammation.

In a certain ratio of cases, the best-chosen remedy that is prescribed on these, or similar indications, will fail to complete the cure without manual assistance of some kind. This is more especially true of the treatment of membranous dysmenorrhœa when it co-exists with retroflexion (not retroversion) of the womb. Under these circumstances the reposition of the organ, as a condition for the prompt and ready exit of the flow, allays and averts the tendency to a moulting of its nidal membrane. And the effect of this expedient is still more decided if a free dilatation of the cervical canal is also secured at the month.

It is possible that this disease may arise as a sequel to diphtheria, when it would require to be treated accordingly. But the off-hand method of prescribing for it as though it were always and strictly a pseudo-membranous affection, is not only unsatisfactory in theory, but unsuccessful in practice.

BORAX IN MEMBRANOUS DYSMENORRHŒA.

For the notes of the following case I am indebted to Dr. A. P. Throop, of New York. You will find it in the Transactions of the Homœopathic Medical Society of the State of New York, vol. X, 1872, p. 279:

Case.—Mrs. P., aged 21 years, married fifteen months, came to

me for treatment September 4, 1871. She had no children and had never suffered from miscarriages, but had been complaining for about a year of irregularity in menstruation, as follows: The menses appeared four or five days too early, and continued fourteen days unattended with pain. Eight months since she noticed shreds of membrane mixed with the menstrual discharge. There was at this time no dysmenorrhœa, but the period occurred more frequently, every three weeks, and sometimes lasted for sixteen days. This condition continued until the patient applied for relief from the severe dysmenorrhœa, with intense uterine tenesmus or "bearing down" pains from which she was suffering.

Prescribed secale cornutum, pure tincture. The pain was not relieved at once, yet it ceased, as did also the discharge, soon after the passage of pieces of membrane of the same character, but larger than those previously passed. The discharge continued only three days after the last shred of membrane was passed.

The menses again appeared on the 28th of September, with severe dysmenorrhœa, lasting seven days, at the expiration of which time a much larger, though similar membranous substance was passed. The patient, on this occasion, describes the substance as being two or three inches in length, and having "a sort of three-cornered shape." Previous to this no mention had been made of passing these unusual substances, but the history of this feature of the case was given in answer to my questions.

The patient was requested to preserve this last unusual menstrual product, and, on examination, it proved to be a perfect membranous cast of the cavity of the uterus, triangular in shape, with that portion corresponding to the canal of the uterine neck a little longer than the angles corresponding with the cornea. It was ascertained to be hollow, and its external surface was studded with little villous prolongations.

This membranous product, with the history and symptoms of the case, made the diagnosis easy,—membranous dysmenorrhœa.

Treatment.—As suggested by Prof. Ludlam, of Chicago, prescribed borax 1, three times a day, till the next period.

The next period occurred the 25th of October. Dysmenorrhœa much less, no cast, only shreds, less in size than for months, and the general condition better.

The last prescription of borax 1, was given November 21st. In January, 1872, I called at the patient's home, being desirous to know the sequel of the case, and ascertained that there had been no more dysmenorrhœa, as the period had not again appeared, and the patient was pregnant. As pregnancy and membranous desquamations from the inner wall of the uterus are not compatible, the membranous dysmenorrhœa is supposed to be cured.

On the 7th of August, 1872, she gave birth to a fine, healthy

female child, and there have been no symptoms since of any uterine trouble.

MEMBRANOUS DYSMENORRHŒA FROM EXFOLIATIVE ENDOMETRITIS.

Case.—Mrs. M., American, æt. 31, and sterile, began to menstruate when 18 years of age. Her mother did not menstruate until her eighteenth year. The first menstrual flow was very painful and profuse. One year elapsed before the second made its appearance. During this time the patient bloated frequently, and had nose-bleed, but does not remember whether this occurred at the month. During the two following years menstruation returned four or five times, the periods unvariably coming while the patient was under some nervous strain. The flow at this time was very painful, but was not, and never has been, accompanied by headache.

From her 18th to her 21st year,—the time of marriage,—she taught school, and on her way to and from school was often exposed to stormy weather. She remembers that frequently she has sat for hours with wet feet. Two weeks after marriage the menses again appeared. At their cessation she was seized with an acute inflammation of the bladder and kidneys. This lasted four or five weeks in an acute form. The pain on voiding urine continued for more than a year. Upon recovering from this illness a leucorrhœal flow began.

Up to this time her general health had been good, but it now began to decline. Two years later, during a menstrual period, a falling of the womb took place. This prolapse is aggravated at the menstrual period. Some two years later the patient began treatment. A local examination was made and the case called one of anteversion. An instrument was introduced into the womb to replace the organ. This was repeated four or five times. Failing to keep the uterus in place a Macintosh supporter was advised. After a four weeks' trial this was abandoned on account of the inflammation caused by it.

As soon as this subsided, the physician began the use of spongetents. About a half-dozen of these were inserted during a period of six months, on each occasion producing more or less inflammation. But one flow occurred during this time. This was profuse, and with the blood black clots were discharged, pieces of decayed flesh, and stringy substances. A diagnosis of membranous dysmenorrhœa was then made.

No especial treatment has been taken since,—a period of six years. No change has taken place in the character of the flow. During the last three years she has had a severe cough accompanied by an expectoration of thick mucus. During stormy weather

a sharp pain is felt in the apices of the lungs. All these pectoral symptoms are relieved by the flow, and do not again occur until six weeks or two months after the flow.

Patient stopped menstruating one week ago; feels weak; has bearing down pains when erect, with a sensation of smarting in the womb, and an irritated feeling in the vagina; some pain on urinating; bowels constipated; and she is troubled with hæmorrhoids.

On physical examination.—The cervix is depressed and points toward the hollow of the sacrum, the womb lying transversely across the pelvis. The fundus is inclined forward (anteversion).

The internal os is open, the internal surface of the uterus is very sensitive, and its depth is three and one-fourth inches. There is no especial tenderness of the ovaries.

In response to inquiries, the patient says rheumatism is not a family complaint, and that she has had no eruption on the skin since a child, but that there is a tendency toward consumption in the family.

I have cited this case in illustration of a rare form of dysmenorrhœa which is both membranous and inflammatory. The case is still further complicated by the uterine deviation, which very likely had something to do with causing it. For versions of the uterus which occur at or about puberty, are almost always the result of flexions; and it is not improbable that this case may have begun with the bending of the uterus upon itself as a sequel of her first "period," and that the long interval between it and the second, resulted partly, or wholly, from this cause.

Rarity of such a case.

Version as a factor of.

Be that as it may, the attempt to keep the organ in situ by means of an intra-uterine stem was the worst thing that could possibly have been done, for it almost necessarily induced an inflammation of the lining membrane of the womb, when that membrane had already been congested by the displacement. Under these circumstances the careful gynæcologist would no more think of leaving a stem in the cervical canal than he would of placing a sponge-tent there while there was any peri-uterine inflammation.

Mal-treatment by the stem-pessary.

Contra-indications.

There are two or three reasons why you should be careful to differentiate this from the more ordinary forms of membranous dysmenorrhœa. In the first place the remedies that are suited to exfoliative endometritis are

Peculiar remedies.

not those which are most successfully used in the treatment of the common type of deciduous dysmenorrhœa. They include the different preparations of arsenicum and mercurius, the mineral acids, and baptisia.

In the second place, all sorts of local treatment, including the use of sponge-tents, the resort to intra-uterine injections, the wearing of pessaries, the dilatation of the cervix by any means, and even the passage of the uterine sound, or the probe, will be mischievous, and are contra-indicated in exfoliative endometritis. We may permit the use of warm sitz-baths, or hot water vaginal injections, and of enemata, to keep the bowels open, without fear of doing harm, and with the prospect of good results in some cases.

Special local contra-indications.

This patient has now been five months under treatment. She has taken belladonna 3, during the period, and arsenicum jod., 3, during the interval. The result has been that instead of returning every nine or ten weeks only, her periods recur every five or six weeks, and her local suffering, as well as her general condition, have improved in a corresponding degree. She is very anxious to become a mother, and, if she could conceive and carry her offspring to term, it is very likely that she would be radically cured.

Result of treatment.

OVARIAN MEMBRANOUS DYSMENORRHŒA.

Case.—Mrs. —— comes from a neighboring State. She is twenty-six years of age, and has been married six years. She has never had any children, but has had an abortion at the sixth week.

She began to menstruate at thirteen; there followed an interval of two months, and then the periods were regular until after her marriage, since which time they have varied from three weeks to three months. When she goes over two months, there is always a membrane expelled, but at no other time. The periods last four and five days, and the longer the interval, the greater the pain and suffering, until the membrane is expelled, when the flow continues, but without pain. There is constant pain in the left ovarian region, and on the outside of the left ankle, but none in the limbs. The infra-mammary pain is pronounced, but passes away when the flow begins, and does not come at any other time, but is greatly increased by any unusual delay in the menses.

She has no leucorrhœa, no vesical trouble, and no constipation

she sleeps best on the affected side, and has an almost constant vertex headache.

On local examination, the womb was found somewhat anteflexed, the canal of the external os was patulous, and the cervix was swollen. The introduction of the sound revealed a tortuous canal, and the depth of the womb was three and one-half inches. There was a slight corporeal cervicitis, and a little hæmorrhage followed the introduction of the sound.

In addition to the symptoms just given, there was a slight laceration of the cervix, which, although it happened to be of little consequence in any other way, disclosed the fact that she had had an abortion, or rather, that some foreign body other than the membranes, must have been expelled from the uterine cavity. In fact she did not confess to having had an abortion until I told her that such must have been the case, when she remembered that she had had such a mishap in her early married life. You must keep a sharp look out for this button-hole os in making your local examinations.

The button-hole os uteri.

The theory advanced by Oldham, that ovarian inflammation is the prime factor in some cases of membranous dysmenorrhœa, is illustrated by this patient's history. If we can cure the ovaritis, the menstrual difficulty will disappear, and there is no valid reason, at least in so far as her own health is concerned, why she may not conceive and go to term.

Oldham's theory illustrated.

This woman has been taking gelsemium 3, four times daily with excellent effect. All of her symptoms have improved. The menses now return every four or five weeks, and in the two last periods there has been no exfoliation of shreds, no labor-like pains, and almost no burning or aching in the ovary. I am bound to tell you, however, that something of this result, and perhaps the whole of it may be due to the fact that for several months she has been living apart from her husband.

Gels. the remedy.

LECTURE XV.

MENORRHAGIA.

Menorrhagia. *Case.*—Differential diagnosis in cancer; modes of examination; surgical treatment. *Case.*—Uterine disorders complicated with malarial fever. *Case.*

Case.—The first case to which I will direct your attention, this morning, is one of menorrhagia. The patient, Mrs. A., is 46 years of age. Three years ago she had a miscarriage at four months, since which time she has never been quite well.

"Is the flow very profuse, madam?" "O, yes, sir; it is very bad when it comes on." "Do you have it all the while, or only at particular times?" "No, sir; it only comes on when I have my monthly sickness." "Will excitement or fatigue produce it at any other time?" "No, sir." "Do you have any pain?" "Yes, sir; I am troubled with awful pressing-down pains in my hips and the small of my back." "Have you headache at these times also?" "I have a distressing headache so long as I continue to flow." "What is the character of the flow; is it quite natural?" "At the first it is, sir, but afterwards it is like any other bleeding, bating the dark clots which sometimes come away when I have those awful bearing-down pains." "Are your courses regular?" "No, sir; they sometimes come on every three weeks, and sometimes not so often."

Menorrhagia signifies a profuse menstruation. It may or may not be painful. The flow is excessive, prolonged, hæmorrhagic, and debilitating. Women who have attained the age of our patient, in other words, who are more than forty years old, but who have not passed the climacteric period, are of all others the most liable to this disorder.

Definition of.

In them the return of the menstrual period is prone to be irregular. Sometimes, as in this case, it is too frequent, the interval being less than a lunar month. Again, this interval is so prolonged as to occasion distressing symptoms, due to the suppression of an accustomed flow, or anxiety, lest conception may have interrupted the function altogether.

Variations in time.

You will frequently be consulted in similar cases. A very im-

portant point is to make out a proper diagnosis. Hæmorrhage from the uterus may result from polypi, fibroids, cancer, abortion, menstrual congestion, chronic metritis, or from sub-involution of the uterus, or after delivery at full term. Uterine hæmorrhage from a polypus, or cancer, may occur at any time and without premonition. It is metrorrhagic, and has no fixed period of recurrence. Menorrhagia is always and evidently connected with the function of menstruation. The attack occurs with all the regularity of the menstrual flow. The interval is as well defined as in a case of intermittent fever. It may be of two, three, or four weeks duration, but the hæmorrhage is evidently determined by the accession of the catamenia.

Differential diagnosis of.

If you explore with the sound and the speculum you can detect a polypoid growth, or a cancer, if it exists, but a local examination of the uterus in menorrhagia proper, reveals nothing especially abnormal, or pathognomonic, unless it be an increased depth of the organ. The mucous membrane is injected with blood, and more highly vascular than in the inter menstrual period, but this is always the case in the monthly sickness. The weight of the womb is always increased by the afflux of blood to it during menstruation.

Modes of examination.

Excepting chronic metritis, with uterine sub-involution, the lesion that you will most frequently recognize in menorrhagia is sub-acute ovaritis. One of the ovaries is tender to pressure, especially at these times. The patient cannot lie upon the affected side. She complains of lameness in the corresponding limb. At such times urination is painful. Strangury is a frequent and annoying symptom. The effort at stool increases the suffering, The pain extends from one ovary across the abdomen, or both ovaries may be affected from the outset. This pain, which is ordinarily dull and deep-seated, becomes acute like that of peritonitis, during the menstrual crisis. If you fail to detect any swelling through the abdominal parietes, the double touch may disclose a tenderness and tumefaction that will readily explain the suffering.

Complicating lesions of.

Ovaritis.

It often happens that such symptoms date from a miscarriage. This is very likely to occur if the fœtus has been carried long enough for the placental attachments to be well-formed. In the case before you an abortion

From a miscarriage.

occurred at the fourth month. Sub-acute ovaritis is a frequent cause of abortion. In many cases the affection runs a kind of latent course and the physician fails to discover the real lesion.

This patient complains of pain in the region of the right ovary, which is acute at the menstrual period, and dull or sub-acute in the interval, worse upon fatigue; of lameness in the right leg and inability to lie comfortably upon the affected side.

I have found, upon making a local examination through the vagina and the abdominal parietes, that this ovary is swollen and very tender to the touch. With the instructions that you have already had upon the uterine sympathies you are prepared to understand how ovaritis sometimes causes menorrhagia.

Local examination.

Treatment.—For practical reasons we divide the treatment of menorrhagia into that proper during the continuance of the flow, and that appropriate to the interval. To meet the first indication very little skill is required. If the flow is passive and painless, or nearly so, the patient of an hæmorrhagic diathesis, with hæmorrhoids, or varicose veins, hamamelis is the appropriate remedy. It will also be indicated in case of marked ovarian irritation or inflammation, especially if the attack is sudden and its course rapid. It may be applied locally over the ovaries and indeed upon the whole abdomen. Given internally in the first or second decimal attenuation, the dose should be repeated at short intervals. If the flow is bright red, but passive, and accompanied by gastro-intestinal irritation, you may give ipecacuanha. China is called for when repeated floodings and leucorrhœal discharges have weakened the patient greatly. You may sometimes alternate this remedy with ipecac, with the best results. This is an old and favorite prescription.

Remedies during the flow.

Sabina and secale cor. would be appropriate to menorrhagia when complicated with dysmenorrhœa. The latter is more serviceable in post-partum hæmorrhage. These remedies are the more important and reliable in examples of the kind, when the design is simply to arrest the flow. As auxilliaries, rest in the recumbent posture, quiet, the local use of hot water, and cool, acid drinks are necessary.

Remedies for peculiar complications.

In the constitutional treatment proper to the interval we should take into account the peculiar temperament and dyscrasia of the patient, as well as the local lesions and symptoms. If there is sub-acute ovaritis, the symptoms may require hamamelis, sepia, platina, bell., or some similar remedy. When, as in the case before us, the menses are too frequent and profuse, and especially if the patient is of a strumous habit, with a tendency to pectoral disorder, the calcarea carb., is *par excellence* the appropriate remedy. We prescribe for this patient hamamelis virg., 2d decimal trituration every two hours during the flow; and calc. carb. 3d decimal trituration, morning and evening, throughout the inter-menstrual period.

Treatment in the interval.

In the *Hahnemannian Monthly* for December 1870, you will find an excellent article by my friend Dr. O. P. Baer on the therapeutics of uterine hæmorrhage. His remarks are so plain and practical that I will cite a few of them. He says:

"I think belladonna one of our best remedies in hæmorrhage from the uterus. Its sphere of action is greater than any other known remedy. I have watched its actions so constantly, for now nearly twenty-five years, have noted the symptoms relieved by it so often (many of which have never been recorded), that I have no hesitancy in terming it the *king* of remedies for uterine hæmorrhage. Ipecac does well in its limited sphere, of which nausea and vomiting are the chief characteristics. And mind you, this nausea must proceed from the stomach alone, and the discharge of blood be increased with every effort to vomit. This nausea does not affect the system particularly, otherwise than by inducing increased debility. Belladonna also relieves nausea, and particularly, when there is a wave-like feeling, or undulating sensation, or pulsating tremor all over the whole person, from head to foot; and a sick pulsation even in the fingers and toes. This symptom I have often met with, particularly in severe hæmorrhages of miscarriages, and belladonna in such cases always gives prompt relief. Ipecac would fail. I have known it to fail in just such cases. The ipecac nausea gives a weight in the stomach and no further, while belladonna gives nausea with rumbling in the whole abdomen, with great weight from above downward. Gentle pressure upon the uterus may cause nausea, and should it do so no other remedy is so promptly effectual as belladonna. Where the moving of the

hands or feet cause the same feeling of nausea, with wave-like swimming (vertigo) of the head, bell. again, is the only reliable remedy. * * * * In the belladonna nausea there is rarely retching, or heaving, while in ipecac there is upward heaving, raising the abdomen, bowing the back, and straining to vomit. The action of belladonna is deeper-seated, more quiet, and more insidious. Chamomilla nausea in hæmorrhage is one accompanying fainting. A chamomilla nausea is rather light, though always attended by a feeling of fainting. Belladonna has a feeling somewhat similar, such as a sinking feeling, just as if the bed was going downward by undulations. Podophyllum resembles belladonna in one particular, which is, an all-over sickness, and with the general nausea, she feels perfectly indifferent and desires to be let alone. I have seen cases where podophyllum did good work, where the patient would say, "Oh, I am so deathly sick!" "Where are you sick?" the response would be, "All over." A few doses of pod. 30, or 200, would check the whole trouble. But belladonna comes in so often as king, that I seldom need to

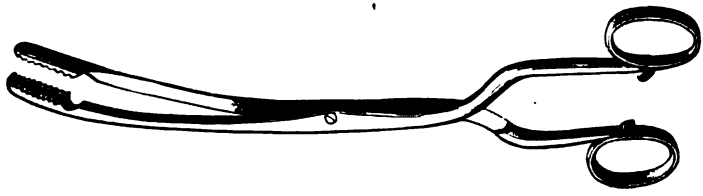


FIG. 27. Penrose's Uterine Polypus Forceps.

resort to other means. Give bell. early, and many of the worst symptoms fail to come."

The *surgical* treatment of menorrhagia consists in the

FIG. 28. Hodge's Modification of Aveling's Polyptrite.

removal of the cause, as, for example, in extracting intra-uterine polypi and fibroids, and the removal of granulations from within the cervix. Exceptionally, where fibroma can not be removed, the hæmorrhage may be arrested by a free dilatation, or even by an

The *surgical* treatment.

incision of the neck of the womb; and in the worst cases of interstitial and of sub-peritoneal fibroids, Battey's operation may be expedient merely with a view to the arrest of the hæmorrhage. These forceps answer very well for twisting off the smaller mucous polypi located about and within the os-uteri, and which often bleed so copiously.

NITRIC ACID IN MENORRHAGIA.

Every practitioner of considerable experience has encountered cases of metrorrhagia supervening abortion, or that were incident to the climacteric, that have resisted all the ordinary means of arrest. The hæmorrhage has continued for weeks, perhaps, in a passive and irregular manner. As a consequence, the patient has been greatly reduced and discouraged. There is a loss of appetite, headache, malaise, and a series of symptoms that are chargable to the continued drain upon her physical resources. She cannot sit upright, or stand erect, but the difficulty is increased.

Metrorrhagia after abortion.

These cases are very annoying, perplexing, and tedious, and sometimes tax our skill to the utmost. Perhaps the various astringents have already been tried, but without avail. Or, the more usual and familiar remedies, such as ipecacuanha, china, secale cor., sabina, crocus, hamamelis, trillin or the erechthites, may have failed in your hands. In such cases, the nitric acid will sometimes answer an excellent purpose. My habit is to give it in the second or third decimal attenuation, the dose to be repeated every one to three or four hours, according to the urgency of the symptoms.

Nitric acid as a dernier resort.

Case.—In consequence of a rough ride in the sleigh, Mrs.——, aged 28, aborted at the second month. For the first few hours she had considerable pain. But the uterine contractions came on regularly, and the embryo was soon expelled. Of course, there was no well-formed placenta at this early period of pregnancy. The post-partum hæmorrhage was profuse and long-continued. When the pains had ceased, the secale which she had been taking failed to have any more influence over the flow. The flow then became passive, and the discharge dark-colored and shreddy.

As the result of keeping her in the horizontal posture, and upon an appropriate diet and drinks, she grew better, but soon re-

lapsed again. This was twice repeated. The usual remedies would cause the flow to cease for a little, but upon the least change of posture, the discharge commenced again. Matters went on thus for nearly four weeks, in all of which time she really had gained nothing, but lost much in strength, color and spirits. At 6 P. M. Tuesday of I prescribed nitric acid in the second decimal attenuation, twenty drops in half a glass of water, two teaspoonfuls to be taken each hour. On Wednesday she had had no flow since midnight. The same medicine was directed to be repeated once in three hours. On Friday there was no return of the discharge, and she sat up a little. The remedy was discontinued. On Sunday she came into the parlor, and afterwards recovered rapidly.

I am aware that there is little in the provings of this remedy that is suggestive of its superior efficacy in this variety of hæmorrhage; and also that I am not calling your attention to anything especially new or strange. In general terms, the nitric acid appears to be indicated in those hæmorrhages from the mucous surfaces which depend upon the destruction and desquamation of their investing epithelium. Hence we find it useful in passive hæmorrhages from the nose, the throat, and the respiratory, alimentary and urinary passages. The escape of blood by transudation in consequence of the removal of the protecting envelope, would occasion very different symptoms from those proper to an active and alarming hæmorrhage, while in the end the result might be equally serious.

Clinical deductions.

The opinion that the decidua, or outer envelope of the embryo, is formed of the mucous membrane that lined the uterus before conception is now very generally received. When abortion occurs prior to the third month, this lining is stripped off, and the cavity of the organ is left as destitute of its proper covering as is the spot where the placenta was attached, when that structure is cast off in labor at full term. If it is not exfoliated entire, the decidua may come away in shreds, in which case the attendant hæmorrhage persists for a much longer period, and is passive in character. The blood escapes slowly, and is for some time exposed to the action of the air before it is expelled from the uterus and vagina. The discharges resemble those of melæna. Occasionally they are quite profuse. In these symptoms, I apprehend, we have the most trustworty and practical indications for this remedy.

Post-menstrual hæmorrhage.

Special indications for nitric acid.

In the case just cited the other remedies failed to give entire relief, because the first stage, and the active symptoms to which they were appropriate, had already passed. Then it was that the nitric acid could be used with the best results.

Many cases of dysmenorrhœa, more especially of the congestive and membranous varieties, merge into menorrhagia. The patient suffers extremely in the first stage of the menstrual period. The flow is started with great difficulty and prolonged suffering, which is similar to the first stage of labor. But when the obstacle to its egress is overcome, the pain subsides and the discharge is correspondingly free and copious. The delay and retention of the blood in utero, and the violent efforts to force open the internal os uteri, have resulted in the partial or complete exfoliation of the endometrium, and therefore, whenever she menstruates, it is as if the woman had had a veritable abortion. In one sense the hæmorrhage is post-partum. In all important pathological respects, it is identical with that which supervenes upon a miscarriage in the early months of gestation. The detachment and disorganization of the uterine mucous membrane develops the case into one of passive hæmorrhage, to the relief of which the nitric acid is frequently, but not invariably, adapted.

Post dysmenorrhœal hæmorrhage.

You are already aware that, at the climacteric, many women are liable to protracted hæmorrhage, which is apt to be of a passive kind, not profuse, but lingering, exhaustive and debilitating. This flow is sometimes intractable. It may or may not contain strips or shreds of what are falsely called "pseudo-membranes," but its existence often depends upon the morbid condition of the uterine mucous membrane of which I have spoken. In some of these cases the nitric acid is invaluable.

Hæmorrhage at the climacteric.

Case.—Mrs.——, aged 46, had been ill for five weeks with a passive hæmorrhage, which dated from her last menstrual period. She was much reduced in strength, the pulse was weak and irritable, the lips, tongue and alæ nasi were very pale. She complained of occasional faintness, and disgust of food and drinks. The feet were cold, and she had almost complete insomnia. Her friends thought her going into a rapid decline. Motion aggravated the flow. Prior to the last period she had a similar attack, which continued about four weeks before the flow was arrested.

I prescribed nitric acid in the second decimal attenuation, to be taken as directed in the former case. In two hours the hæmorrage ceased. She made a rapid and complete recovery without taking any other remedy.

In these cases the state of the uterine mucous membrane is very analagous to that which we meet with in apthous conditions and incipient ulcerations of the alimentary mucous surfaces, as in stomatitis, typhoid fever, and in some forms of diarrhœa and dysentery. Here we have a similarity of texture, and there can be little doubt that these membranes are susceptible to disease-producing and disease-curing agents of a similar character. Possibly the sulphuric, phosphoric and muriatic acids might also be useful in some cases of uterine hæmorrhage. The great benefit derived, in the treatment of hæmorrhages, from citric acid in the form of lemonade and oranges, and of tartaric acid in grapes, may not be attributable alone to their being grateful to the taste. It is not improbable that they are of service in a medicinal as well as in a dietetic way.

Practical conclusions.

MENORRHŒA—CERVICAL EPISTAXIS.

Case.—Miss M——, 19 years of age, has been an invalid for four years past. She is not confined to her room except at irregular intervals, but is active and able to ride or walk, and to some extent to enjoy the society of her friends. She began to menstruate at fifteen. The first period came on with a great deal of pain and difficulty, but when the flow was finally established it continued for three weeks without cessation. After five days' intermission it commenced again, but without any considerable suffering. Again it continued until almost the end of the month, and again it returned with the regularity of the normal monthly discharge. In this manner, for four years, the flow has been almost constant. The longest interval in which she has ever been free from it, in all that time, is seven days. There is no dysmenorrhœa, the loss of blood is not excessive, but the flow is passive and painless, and continues when she is sleeping as well as during her waking hours. Sometimes under strong mental excitement, as when she is at a concert or in company, and her mind is diverted, it ceases temporarily, and afterwards returns as before. The same effect has been observed in consequence of a carriage ride and of a journey by rail; but it is of a very short duration.

If the flow is arrested, she suffers no inconvenience excepting a "rush of blood to the head," accompanied by more or less vertigo, headache, flushed face, dimness of vision, and a heavy, dull feeling, with disposition to sleep. At other times her mind is clear

and her spirits are good. And yet she feels somewhat weakened and enervated by the constant loss of blood. Her appetite is good. There is no intra-pelvic pain or distress, no hæmorrhoids, no constipation, and no urinary derangement. The only suffering noted is a feeling of aching and weariness in the region of the ovaries, more especially of the left one, at the month and after unusual exercise. During her whole menstrual life her mother was subject to a similar hæmorrhage.

This patient's general appearance does not indicate that she is ill. She has walked several squares to the Dispensary this morning, with less fatigue than you would have supposed possible. Her color is somewhat heightened by the exercise in the open air, for her sister says that she is usually more pale than now, excepting only when her hæmorrhage has ceased and the blood rushes to her head.

It is sometimes very important, in cases of this kind, to discover the relation which a passive uterine hæmorrhage bears to the catamenial function. If the flow dates from the first establishment of this function at puberty, as in this instance, or if it habitually ceases a short time before the "period," and then recurs regularly, you may conclude that it is essentially a menstrual disorder. There are some exceptions to this rule, as in case of medullary carcinoma, and sub-mucous polypi, and perhaps in syphilitic endometritis also; but, in most instances, the manner and time of its advent, and its regular periodicity afterwards (even although the period may be longer or shorter than natural), are to be taken as evidence of its connection with the process of ovulation.

Relation to menstruation.

A diagnostic rule.

Nor is it difficult to explain this result. The physiological injection of the endometrium, which is a condition of the menstrual secretion, is relieved and removed when the healthy woman has menstruated. But, if she is not well, that extraordinary fullness of its vessels may continue, even although the menstrual flow has been discharged; and there will remain a passive congestion of some portion of the uterine mucous membrane. This engorgement may relieve itself by a profuse and copious hæmorrhage, as in menorrhagia, or even in metrorrhagia; or it may pass away by a sort of cervical epistaxis,

A physiological reason.

or passive flow, in which the local excess of blood oozes out and escapes more leisurely. In the former case the critical and alarming hæmorrhage is sudden, and of short duration; in the latter it is a mere prolongation or continuation of the menses, without any very serious symptoms, until the month is nearly or quite spent, and it is time that they should return again. One is acute, active, and irregular in its recurrence; the other chronic, passive, and distinctly periodical.

There is another reason why this woman's hæmorrhage, although so long continued, must be classed as menstrual — a real case of menorrhœa. It is that the amount of the flow is not influenced by the exercise which she takes, or by other circumstances, more decidedly than it is in ordinary menstruation. If that hæmorrhage depended upon the presence of a sub-mucous or interstitial fibroid, a polypus, ulceration, cancerous degeneration, or venous engorgement, the quantity of blood lost would vary with her habits. Above all things, it would not be lessened by riding and active exercise.

Peculiarity of the flow.

Viewing this species of hæmorrhage as in a sense critical, and remembering the "habit" which has grown out of its continuance, with brief intervals only, for years, we should naturally expect that the arrest of the flow would occasion more or less of suffering and disorder elsewhere. Hence the "rush of blood to the head," of which this woman complains whenever the flow has ceased, and which subsides as soon as that flow is restored. The same cause will sometimes induce a violent attack of facial neuralgia, or sick headache, vomiting, delirium, hysteria, spasms, coma, or even convulsions.

Its critical nature.

To show that this disease is not infrequent, and that the case before you is a typical one, I will read you some extracts from a letter received a few days ago from Dr. R. C. Sabin, of Wisconsin, a member of the class for 1871-72:

Case. — "My patient is now eighteen years of age. She commenced menstruation at fifteen, and the flow has been almost constant ever since. The longest time in which she has been free from it is two weeks, when the interruption was caused by a journey by rail. The discharge is of a bright red color, thin and watery, and has no odor. After continuing for a month or six weeks, the flow becomes stringy and thick, and then ceases for

two or three days. Her health is always impaired at the time the flow stops, and there is giddiness, sudden flushes of the face. blindness, etc. These symptoms pass off as the flow returns. The urine is high-colored, and of a strong nauseous odor.

"She is of scrofulous habit, short and fleshy, and is troubled with frequent moist eruptions. The constant drain does not seem to have the least effect in reducing her weight. She was extremely fleshy as a child. Her general health seems good, she goes to school, and has a gooda appetite

"She has taken, at different times, sepia, pulsatilla, calcarea carb., china, hamamelis and ferrum. The latter benefits her general condition, and, temporarily, lessens the amount of the flow. Hamamelis will also check it in a few days, but then she feels wretched until the discharge comes on again."

In these cases you should not fail to make a careful vaginal examination before you venture an opinion concerning the nature of the disease, or the proper course of treatment to be pursued. You may find the cervix uteri tender, swollen, congested, or in a state of areolar hyperplasia; or a small mucous polyp may have sufficed to perpetuate the mischief. Bi-manual examination, and the double touch, may discover such a state of ovarian irritation and inflammation as will account for the symptoms and give you a hint toward their relief.

Necessity of physical examination.

It is sometimes important to know whether this or other menstrual disorders have been hereditary in the patient's family. Especial inquiries should be made concerning the hæmorrhagic diathesis, or if the patient has ever had chlorosis or anæmia. The clinical history of the case might also be modified if the woman had ever borne children, or been pregnant and suffered an abortion, and in some cases by her having nursed an infant. And so also by marriage, intemperate coitus, residence in a mountainous, a marshy, or an aguish district, by high living, and the free use of alcoholic drinks. For all these are so many avoidable causes of the disease under consideration.

Modifying circumstances.

The fact that in this woman's history, as well as in Dr. Sabin's case, the hæmorrhage has persisted for several years is proof that it may continue indefinitely, and without any very serious impairment of the general health. Its duration may even extend from

The hæmorrhage may persist without manifest injury.

puberty to the climacteric, and then expire by limitation. Usually, however, such persons survive the change of life with difficulty, for the arrest of the accustomed discharge is apt to induce disease of a more serious character elsewhere.

One of the most troublesome consequences of this form of uterine hæmorrhage is sterility. Whatever the state of their general health, in women whose pelvic circulation is being thus constantly drained, the vitality of the internal generative organs is low. And even if ovulation is properly performed, the lining membrane of the generative intestine is not in a condition to favor conception. Moreover the sanguineous flow itself would be very likely to interfere with a fruitful intercourse. Hence you will be consulted for the cure of barrenness which, directly or indirectly, is due to such a hæmorrhage as this woman has had for the past four years.

Sterility from.

Treatment. — In the whole range of medical practice, I scarcely know of a class of cases which is better suited to illustrate the efficacy of properly chosen internal remedies, conjoined with suitable hygienic regulations, than this. Here is a case of hæmorrhage which depends upon a pathological disorder of one of the most prominent of all the bodily functions. It has a definite clinical history. Its symptoms are significant. Its causes are obvious and avoidable. Its diagnosis and prognosis are not difficult. Its treatment is similar to that of other diseased conditions. And it can be cured by therapeutic means exclusively.

Medicine *versus* Surgery.

In all these respects such a case as the one before you differs from uterine hæmorrhage accompanying or following labor or abortion, or from habitual and excessive losses of blood in consequence of intra-uterine growths. In them the hæmorrhage is accidental and more or less dangerous. It is a mere contingency, and must be relieved at once, or the patient's life may be sacrificed. The simple expedient of emptying the womb and securing its contraction may be sufficient. But in the passive form of uterine hæmorrhage, connected with menstruation, surgical appliances are either powerless or harmful, and no such very general indication is presented. We are forced to depend upon uterine therapeutics.

Not to be confounded with "unavoidable hæmorrhage."

In the selection of a remedy, or remedies, we should not overlook the significance of certain incidental states or conditions, for example, the different dyscrasiæ, each of which is possessed of its own clinical bearing. Thus:

General therapeutics.

If the patient is predisposed to hæmorrhage, such remedies as china, ipecacuanha, sabina, platina, secale cornutum, ferrum, nux vomica, natrum mur., hamamelis, trillium, rhus tox., calcarea carb., belladonna, crocus, carbo veg., phosphorus, arsenicum alb., and sulphuric or nitric acid may be indicated. She should be put upon cool acidulated drinks, and enjoined to keep as quiet as possible during the first week or ten days of the period especially.

For the hæmorrhagic diathesis.

If she is in a state of chloro-anæmia, the remedy must cover the symptoms which are most prominent. Among them you will observe such as signify a profound impression of the nervous and circulatory, as well as of the digestive and menstrual functions. And, whether the hæmorrhage is the cause or the consequence of the impaired quality of the blood, the case will have to be treated as one of chlorosis with serious complications.

For the chloro-anæmia.

In case of confirmed scrofulosis with menorrhœa, I apprehend it to be of the utmost importance to attend to the physiological needs of the organism in advance of medication. First, select a suitable diet, one that can and will be assimilated. It should consist of a proper and available proportion of the oleo-albuminous elements. These should be cooked and presented in a pleasant and palatable form, and at a suitable time of the day. The appetite should be encouraged by mental diversion and suitable exercise in the open air. For the function of hæmatogenesis, or blood-making, to which the lymphatic glandular apparatus is especially devoted, must proceed properly, else the quality of the blood will become so seriously impaired that hæmorrhage will almost certainly follow.

For the scrofulous cachexia.

The most prominent remedies suited to this cachexia, and the symptoms that are likely to spring from it in this form of cervical epistaxis, are calcarea carb., calcarea phos., hepar sulphuris, silicea, baryta carb., jodium, phytolacca, carbo veg., mezereum, merc.

sol., merc. jod., sulphur, and the nitric, muriatic or sulphuric acids.

In some obstinate examples of this form of passive uterine hæmorrhage (if your experience accords with mine), you will find that when the most carefully selected remedies have failed, as they sometimes do, you will succeed in curing it by giving medicines which are anti-syphilitic in their character. In this way the kali jodatum, kali hyd., thuja, merc. præcip. ruber, and nitric acid, in such potencies as you shall select, may help you out of the difficulty. Of course, if you succeed by giving them upon the theory that there was a slight taint of syphilis in the lesion, it will not be either prudent or necessary to tell the patient or her friends why this particular class of remedies was chosen.

For the syphilitic cachexia.

Ovarian disease is so frequently at the bottom of these hæmorrhagic complaints that you should be very careful not to overlook it. For, as a rule, the ovaritis precedes the hæmorrhage, and is the cause both of its long continuance and of its periodical return. This is especially true if the chronic and unnatural flow dates from puberty. The remedies which are best adapted to the cure of this complication are belladonna, colocynth, hamamelis, lilium tig., lachesis, carbo veg., conium, veratrum vir., platina, mercurius corr., and pulsatilla. In a word, the cardinal symptoms that properly belong to the lesion of the ovaries, when the ovaritis and the hæmorrhage co-exist, are a more trustworthy guide in the selection of the remedy than the quantity, or even the quality, of the sanguineous flow itself.

For ovarian complications.

Since it is possible that a change of climate may aid in the recovery, one who has lived in a mountainous region may be sent to a different section; or one who has resided in a low, marshy district, may be transferred to the mountains. Sometimes a cure will follow a change from the prairies to the sea-side, or *vice versa*, the object being to bring about an entire renovation by a change of external conditions. Or a sea-voyage, or salt-water baths, may prove very beneficial.

Change of climate.

While it is requisite that such patients as Miss —— should take sufficient exercise, it is equally important that they should not overdo. Horseback riding, or running the sewing machine, skating, or dancing, for example,

Suitable exercise.

would aggravate or increase her disorder. The exercise should be more gentle and passive.

Nitric acid.

I have more confidence in nitric acid, in the second decimal dilution, than in any other single remedy in these cases. It is not, however, specific. She will take it four times daily, and report the result.

MENORRHAGIA WITH REMITTENT FEVER.

Case.—Mrs. ——, aged 30, has been subject to menorrhagia for three years past, for the relief of which she has had treatment by two celebrated gynæcologists, but without avail. She has taken the most powerful drugs, and been subjected to local treatment, which consisted in the topical use of astringents, such as the tincture of the chloride of iron, tannic acid, a mixture of alum and carbolic acid, and the persistent use of the tampon. She is confident that these applications have frequently been made within the uterine cavity, for her physicians have told her very plainly that such was the case. Her loss of blood at the month have been terrible, and it has often seemed as if she must die from them.

She came under my care as a private patient six months ago. The menses had been in the habit of returning every three weeks, and continuing, with brief intervals, for from ten to fifteen days. The flow at times was copious and drenching, and she had frequent spells of fainting and exhaustion. She was pale and anæmic, cachectic and bed-ridden. I saw her first at the close of the period, and prescribed calcarea carbonica 3, a dose to be taken four times daily, and gave her no local treatment whatever. She improved from the start to such a degree, that I resolved to let well enough alone, and gave her no other remedy.

When the next period arrived, which was a little later than usual, she was doing so well that the calcarea was continued. The flow lasted but six days, was much less copious and more natural in every way than it had been for years.

The same remedy and the same experience was continued and repeated for four months with the effect to lengthen the interval between the periods to four weeks, and to lessen the discharge to about the normal quantity. But at the end of this time she observed that each period was accompanied by febrile symptoms of a more decided character than she had ever noticed before, although she was persuaded that something of this kind had often been present during the monthly molimen.

In order to be certain of her condition during the monthly period, I instructed her to go to bed and to stay there until the flow had ceased. Meanwhile, I visited her every day and discovered

that she was suffering from a pronounced fever of a remittent type, for which nitric acid 3, proved to be the remedy.

It is not an uncommon occurrence for uterine, as well as other lesions of function and structure, to be complicated with one of the types of malarial fever. Sometimes this lesion is the cause, and again it is the consequence of the fever. In the case under review, when the calcarea had done its work, there yet remained a source of mischief which it could not counteract or remove. If the type of the menorrhagic fever is intermittent, tarantula is the remedy.*

Complicated with malarial fever.

In this connection, I cannot forbear to remind you, that most uterine disorders are not so single and simple as you may have supposed, and that, consequently it is very seldom that we can succeed in curing them radically and entirely with one remedy, no matter how carefully it is chosen, how appropriate it may be to the more urgent symptoms of the case, nor how persistently it may be given. If there is any class of diseases in the treatment of which, the superior efficacy of our remedies can be demonstrated, it is in the different forms of uterine hæmorrhage, when that hæmorrhage is non-puerperal. It is sometimes astounding to see how our attenuations take hold even in the most unpromising cases. But the fact remains, that only a very few of them can be entirely cured by a single remedy.

Uterine disorders not always easy of cure.

Here is another case which illustrates the tendency of menstrual hæ morrhages to be complicated with the most varied and intractable disorders:

MENORRHAGIA WITH RHEUMATISM.

Case.—Mrs. ——, thirty-six years of age, dates her illness to three years ago in the old country, and attributes it to hard work. Her menstrual flow returns every three weeks, lasts for from eight to twelve days, and is very copious. She has a great deal of pain in her back, with sharp catching pains, which begin in the left, but have extended to the right side. She must lie either upon the back or upon the affected side. She has severe headache which is aggravated at the month. In advance of the flow all of her sufferings, including a nasty taste in the mouth, nausea and constipation, are increased to an almost unbearable extent; but as soon as the discharge begins, these symptoms are measurably relieved. She inherits a tendency to rheumatism.

*Lectures on Clinical Medicine by Dr. Jousset; translated by Ludlam, p. 46.

Under the use of nux vomica 3, spigelia 3, and afterwards of colocynth, 3, the menorrhagia disappeared, and the monthly function became normal; but the rheumatism continues, and thus far has defied our treatment.

[At his clinic on Nov. 3, 1880, Prof. Ludlam called attention to the fact that this patient had subsequently been very much benefited, if not almost entirely cured of the rheumatism by the persistent use of macrotin 3. He also took occasion to say that, in the case of rheumatism, or almost any other disease which is complicated with uterine affections, and more especially with menstrual disorders, the rule that we should withhold our remedies as soon as they have done any good, is unsatisfactory and fallacious. The reason for this fact, for it is a fact, is that in this class of cases, especially at or about the menopause, the uterine irritation is a more or less constantly acting cause which renews the attack of rheumatism, or what not, as soon as the first effect of the remedy has passed off. Ignorance of this clinical fact, has caused many of our physicians to question the efficacy of our remedies in the treatment of chronic diseases when they are complicated with uterine affections.]

LECTURE XVI.

MENORRHAGIA—CONTINUED.

Menorrhagia with hemiplegia; do. with Uterine Fibroid; do. with Convulsions; suppression of do. by Astringents; Vicarious Menstruation.

MENORRHAGIA WITH HEMIPLEGIA.

Case.—Mrs.——, forty-seven years of age has been out of health for five years. She has had eleven children. During her last pregnancy, when she was about three months along, she was suddenly taken with paralysis of the left half of her body (hemiplegia). After the child was born, however, she recovered from it, a result which she attributes to an excessive flooding. She now menstruates profusely every three weeks. At times she has numbness in the left hand and foot. She took hamamelis 3, three times a day.

Five weeks later her general symptoms were very much improved. There was still some numbness in the left side, but she has not menstruated for six weeks. The same remedy was continued.

The menstrual hæmorrhage was effectually disposed of by this remedy, but she afterwards took belladonna with the best result, on account of the hemiplegia.

In this case it is very probable that the approach of the climacteric period, had as much to do with the hemiplegia, as the condition of pregnancy. And the menorrhagia was certainly contingent upon it. The proper therapeutics of the case, therefore, complicated as it was, turned upon a recognition of these facts and of these factors, and hence necessitated the use of belladonna after the hamamelis had done its work.

A compound indication.

MENORRHAGIA FROM A UTERINE FIBROID.

Case.—Mrs. N., aged thirty-three, has had menorrhagia for eight years. She has never been pregnant. She first discovered the tumor about eight years ago, after having lifted and cared for a very sick sister. This tumor is sensibly increased in size with every return of the menses. The only pain that she has is with the flow, which is very copious, but of a brief duration. At one time, however, the menses were suppressed for nearly a year.

[The class examined this tumor very thoroughly. Its outline

and texture could be distinctly recognized through the abdominal parietes. Prof. L. passed the sound into the uterus, and then moved the tumor with the hand upon the abdomen, so as to illustrate the intimate connection between the two. He also said, that in this case, the menstruation had become regular and almost normal. The growth of the tumor had been arrested, and the patient's general health had greatly improved, under the use of the Trillin in the 3d decimal trituration.]

MENORRHAGIA WITH CONVULSIONS.

I have had frequent occasion to extol the virtues of Nitric Acid in a certain form of menorrhagia. Here are the notes of a case for which I am indebted to Dr. W. H. Parsons, of the Class of 1870-71:

Case. — Miss ——, twenty years of age, of nervo-bilious temperament, with dark hair and complexion, black eyes, and small in stature, had been ill for nearly four years. For the first eight years of her life she was puny and small, and, though never very ill, the skin was always of a yellowish hue, and the flesh very soft and flabby. At the eighth year she began to grow in height and breadth, and finally became very fat. She continued so until her fifteenth year, when her menses appeared. At the second month she began to have a peculiar discoloration of the skin in various parts of the body. There were dark circles about the eyes, with languor, a morbid appetite and a general chlorotic condition, and the catamenia did not return.

The doctor under whose care she was placed succeeded in bringing on the menses, but the flow did not cease at the proper time. The discharge was muco-sanguinolent, dark and offensive, and lasted at first about a fortnight. After this it became continuous, and she lost the record of the month. This state of things was unchanged for several months more when the mother besought the doctor to *stop* the flow. Some unknown medicine was given which had the desired effect, but she went into convulsions, and the doctor, having decided it as hopeless, relinquished the case. As soon as the effect of the drug passed off, the flow returned and the convulsions ceased.

This was followed, however, by twitching of the voluntary muscles. For about six months these symptoms continued and increased in severity, and her parents abandoned all hope of her recovery. Another physician was called, who diagnosticated the case as one of menorrhagia. He proceeded to suppress the dis-

charge and re-produced the convulsions. He then declared them epileptic, and treated her for epilepsy. But the girl grew weaker and more nervous, and finally he also abandoned the case, saying that "she would either outgrow it, or would ultimately die of it."

At the beginning of the third year Dr. —— was called. He declared it to be a passive menorrhagia, and prescribed hamamelis, creasote, secale cor., pulsatilla, etc. With these remedies the flow was arrested without bringing on the convulsions, and for a time the patient seemed to improve. After this she had amenorrhœa (*suppressio mensium*), for several weeks, and then for six months more alternations of suppression and continuous flow. She was finally reduced to a mere shadow, passed sleepless nights, her right side was constantly in motion, and she was anxious to die for the sake of relief.

Another physician was called, the patient improved, under senecin, gelseminum, and secale cor., and the parents soon thought they could "get her along" without the doctor. So far as the discharge was concerned, she was in a somewhat improved condition. But generally she was no better. In a few months the old difficulty returned with renewed violence.

I found the patient in the following condition. She is very much emaciated, and hardly able to walk; flesh flabby, skin soft, discolored in spots, very sallow and dirty looking, hectic flush, sensitive, alternate chilliness and flushes of heat, eyes brilliant, with dark circles about them, and constantly moving from one object to another. Sometimes she sits and stares like an idiot, and acts in a very silly manner. She also complains of pains in the top and back part of her head. The pulse is quick, small and irregular; respiration hurried; her body is in almost constant motion, her right foot and hand are very restless, particularly at night; starts in her sleep as from fright. She rises at six A.M., but soon returns to bed, and almost immediately falls into a deep sleep which lasts about two hours, after which she feels weary and languid. She dislikes society, is fond of seclusion, and is very despondent. Complains of pain in the dorsal region of the spine. The stomach is very irritable, with a constant feeling of "goneness," eats little, food irritates and causes pain in the stomach. Craves acids, can not eat either pastry or hearty food. Tongue is coated and of a bluish white color. The bowels are bound, the urine high colored. No pain in the uterine region.

The vaginal discharge is of a muco-sanguineous nature, very dark and fœtid, darker than the proper flow, with occasional clots.

I stipulated that she should eat what I directed, and nothing else, that her room should be changed from a dark and curtained

dungeon to an airy, pleasant one, exposed to the sunlight, and that she should continue under treatment until I pronounced her cured, whether it took a month or a year. She was to take all the apples and oranges that she could eat, to exercise lightly in the open air, and to forego her exhausting sleep in the morning. The remedy prescribed was nitric acid[3] (centesimal), four pellets three times each day.

April 17, two days later, no change excepting that her stomach is less irritable, and bears food a little better. Continue the medicine.

April 19, improved; thinks the flow less; appetite better; but is very nervous and wakeful. Coffea[6] one dose at bed-time, and nitric acid as before.

April 23. Continues to improve; rested much better; the discharge is very much lessened; appetite improved; pulse less frequent and more regular. Continue.

April 26. Improving. Repeat the acid only twice per day.

April 29. Flow completely stopped. Is very restless, can not lie or sit still; starts at the least noise, seems afraid of every one, must get out of bed, looks wildly about, can not sleep. Hyoscyamus[6] two doses at night. Nitric acid discontinued.

April 30. Slept well, feels refreshed; had the best night's rest that she has had for months. Hyoscyamus as before.

May 3. Better, sleeps well, is more inclined to talk, and less nervous; eyes less brilliant, appetite better, very little pain in the head. A slight discharge from the vagina. Nitric acid again, two doses to be taken each week.

May 15. Found my patient much improved. She has passed through her menstrual period, which lasted four days and ceased spontaneously two days ago. She feels like a new creature, sleeps like a child, appetite good, stomach bears food well, no head symptoms, is cheerful and hopeful, glad to see her family and friends, her skin is almost natural, and, in brief, she appears well.

Three months later (Aug. 10th), I called upon my patient and learned that she had quite recovered, and was in every respect the opposite of what she had been. The nervous symptoms had vanished, the menstrual irregularity had disappeared, and her health was entirely restored.

Emmenagogues at puberty.

This case illustrates the ill effects of "forcing the flow" at puberty. Here is a young lady of fifteen years. Nature is making an effort to establish the menstrual function. She is passing through the preliminary stage of the crisis, has been sick once, and in due time all will be well.

But her incidental ill-health alarms the parents. A doctor is called, and he decides that the "change" is not progressing as it should, and that all her difficulties are due to the delay in menstruation. Thus far his opinion is well enough. But, forgetting, if he ever knew, how delicate the function of ovulation necessarily is, with what contingencies it is beset, and how easily its proper performance may be deranged, he prescribes something that is designed, not to prompt, but to compel the flow.

Bad practice.

The consequence is that a train of ills, which might have been avoided, is fastened upon her. The flow appears, but it is not physiological and healthy. Instead of being followed by a spontaneous return in four weeks, it does not come at all. A little more medicine, and more of tinkering with the most marvelous of all the wonderful processes of the living animal body, and, as if to revenge itself, the discharge commences and continues indefinitely, or until it is checked again by powerful astringents.

Remote consequences.

Now, gentlemen, you know the mischief of the artificial induction of abortion. I have shown you how ruinous it is to the health of a woman to forcibly interrupt the attachments and growth of the germ. In this clinic your attention has been called to some of the sequelæ of this abominable practice. But, let me tell you that, leaving the fœticide out of the question, the consequences to the woman are no more serious and lasting than those which frequently follow the taking of emmenagogues by young girls who are but just beginning to menstruate.

Menstrual intermissions common.

The fact that with this patient the menses had already appeared should have been a sufficient guaranty that, if she were well in other respects, the flow would be regularly established. And besides, as every experienced practitioner will attest, nothing is more common than for the "periods," after having come once or twice at puberty, to be irregular. Sometimes they skip one month, or two or three, or perhaps even a year, before they return again. And this without any material damage to the general health.

Let them alone.

By and by, unless the doctor or the nurse is impertinent, ignorant or mischievous, they are resumed with very little risk, and afterwards become quite regu-

lar. But, if you will observe carefully, I think you will find that in a very large proportion of cases of intermittent and irregular menstruation, amenorrhœa and menorrhagia, the difficulty is traceable to mal-treatment of this kind, at or about the period of puberty. In this manner it is quite possible for a single doctor, who has a passion for what he calls "demonstrative treatment," to sow the seeds of evils that fifty better men can not remedy.

The nervous and the menstrual functions.

The relation between the nervous system and the menstrual function is also shown in this bit of clinical history. When the hæmorrhage was suddenly checked the patient had a convulsion, and when the flow returned the convulsions ceased. Each time the discharge was lessened, the nervous twitchings and choreic movements became more manifest. And even when the convulsions were not induced by an arrest of the menses, these jerkings and twitchings were very troublesome and persistent. It really seemed as if the patient was "decreed" to have either the menstrual disorder or the convulsive affection. The problem in the treatment was how to cure the one without causing the other.

Illustration.

You are aware that the liability to hysterical convulsions, spasms and paralysis, is limited to menstrual life. In girls, chorea, or St. Vitus' dance, subsides as puberty approaches, and finally disappears when the catamenial function is established. There is a form of menstrual mania that may accompany amenorrhœa, or menorrhagia, which, in many respects, resembles puerperal mania. All of which illustrates the intimate and profound relation between the menstrual function and the function of innervation.

"Stopping" the flow.

Another item that we should consider in this connection is the folly of supposing that, in certain cases of uterine hæmorrhage, the disease is cured if we only stop the flow. There are cases of flooding in which if we fulfil this indication it is all that we can expect to accomplish, for in so doing we shall necessarily remove the cause of the trouble. Such cases are those in which the loss of blood depends upon the presence of polypi, fibroids, hydatids, or of the placenta in utero, upon cauliflower excrescence, or the more ordinary form of uterine cancer. These can

A practical distinction.

frequently, and indeed generally be relieved most speedily and certainly by surgical, together with medical means.

But in such cases as this, where the hæmorrhage depends upon a pathological condition of the uterine mucous membrane, and a morbid state of the whole menstrual function, it will not suffice to check the discharge. For, even if the patient escapes having more alarming symptoms in consequence, the disease which has caused the flow is not cured thereby. The remedy must be possessed of an intimate, curative relation to the lesion that underlies and has occasioned this particular symptom, else it will do no permanent good.

The digestive derangement was a very natural and almost necessary consequence of the menstrual disorder. And so also was the chloro-anæmia. Nothing could be better adapted for their relief than the careful attention to the diet and to the surroundings of the patient. Fresh air and sunlight, acid fruits, a cheerful room, and pleasant society, were useful auxiliaries toward the cure. Indeed, as the result proved, nothing could have been more appropriate than the treatment adopted. The nitric acid was perhaps the only remedy capable of correcting the menstrual irregularity without aggravating the nervous disorder, of intercepting the convulsive paroxysms, and of curing the alimentary derangement. But alone, it was not sufficient to effect a radical cure.

The gastric and chlorotic symptoms.

SUDDEN SUPPRESSION OF MENORRHAGIA BY ASTRINGENTS THE CAUSE OF SUBSEQUENT ILLNESS.

Case.—Mrs. R.—— desires relief from attacks of what has been diagnosticated as bilious colic, from which she has suffered at frequent periods for eight months. The paroxysms almost always come on at night, immediately upon retiring. For a week past they have returned every evening. The pain is referred to the epigastric region, and is described as sharp, cutting and colicky in its nature. It also intermits, and, when most severe, there is a slight inclination to vomit. The paroxysm generally lasts about an hour, during which time she cannot lie down, but must sit, upright in the bed. After the fit she sleeps soundly, and, with the exception of a loss of appetite for breakfast, and occasional headache, is quite well next day. It sometimes happens that unusual excitement or fatigue will induce a paroxysm in the daytime. This trouble is greatly aggravated at each menstrual period. At present, the menses recur regularly every four weeks.

Prior to the commencement of these attacks she had, for some

months, suffered from too frequent and too profuse menstruation The flow returned every two or three weeks, and the loss of blood was sometimes extreme. To arrest the hæmorrhage, her physician ordered vaginal injections of strong alum water. This expedient arrested the flow, but induced a severe attack of metritis, from which, in the hands of another physician, she barely recovered. The menstrual interval was subsequently extended to about four weeks, but the flow was still too profuse. All sorts of expedients were tried to arrest it, but without effect, until the patient, becoming wearied with it, took the responsibility of resorting again to the alum injections. As soon as she did so, the excessive flow ceased, but in lieu of it she began to have these attacks of excruciating pain. During the eight months which have intervened she has had three other physicians, none of whom has succeeded in clearing up the diagnosis, or in curing the disease.

The temptation to resort to astringents, topically and internally, in case of hæmorrhage, is a very strong one. This is especially true in those forms of uterine hæmorrhage which are connected with menstruation. The arguments against their indiscriminate employment are few and simple. In the first place, unless connected with abortion or labor at term, the excessive flow is symptomatic. In this case, to check it, and to arrest it by styptics, is not to cure the patient, but to complicate matters and make them worse instead of better. The more rational method would be to address our treatment, external or internal, or both, to the removal of the lesion, or condition upon which this flow depends. Take away the cause and the effect ceases. To strike this single symptom out of existence would be to lose time and work mischief.

Intra-uterine astringents.

Again, a copious menstruation, like a free diuresis or diaphoresis, may be critical, and in a sense salutary. It may represent a species of safety-valve which, for the welfare of the general organism, should not be too abruptly closed. It is quite probable that the menstrual secretion is partly eliminative, and designed to expel certain noxious matters which would prove harmful if retained. To suppress the flow voluntarily might induce the very symptoms which are present in case of retention from diseased states, a consequence which it is our duty to avert.

Menorrhagia sometimes critical.

You will readily perceive that the sudden application of a solu-

tion of alum to the vascular mucous membrane of the superior vagina and uterine cervix, for the arrest of the hæmorrhage, would be very apt so to derange its capillary circulation as to cause inflammation. If you desired to produce an attack of metritis, no more certain and expeditious method could be devised. It is no marvel that this poor woman suffered greatly, and almost died in consequence of this unwarrantable expedient. Thousands of lives have been sacrificed in this very manner. These harsh astringents are often thrown into the vagina, and sometimes even into the womb itself, for the same purpose as in this case. With utter disregard of the delicacy of the structures involved, of the danger of inflammation and its sequelæ, of the risk of throwing the fluid through the Fallopian tubes directly into the cavity of the peritoneum, of damming up the blood upon the ovaries, of pelvic hæmatocele, and other consequences a hundred fold more serious than the hæmorrhage itself, this practice is still sanctioned by the profession. I have brought this case before you, in order to impress upon your minds some of the possible consequences that may result from such treatment; also to show you "a more excellent way."

Physiological argument against intra-uterine astringents.

We shall doubtless have frequent occasion to refer to the reflex relations existing between the uterine cervix and the stomach. There is much that is curious and suggestive therein. But there is a clinical hint connected with the history of cases like this, the significance of which you should appreciate. A large proportion of the cases in which astringent injections of various kinds have been thrown into the vagina, and thus brought into contact with the neck of the womb, are characterized by peculiar and inveterate disorders of the stomach and bowels. Some of the worst examples of gastric indigestion that I have ever treated were chargeable to vaginal injections that had been resorted to for the cure of leucorrhœa. In other cases, the ill effects have been observed in the production of intestinal colic, dyspepsia, and constipation.

Digestive disorders from vaginal and uterine injections.

Here the irritant is applied to the superior vagina and about the cervix. Through nervous sympathy the stomach and bowels are implicated. Their functions are deranged, and more or less of actual suffering is induced. Such a train of consequences is all the more certain and characteristic, if the drug with which the

injection was medicated had also a specific relation to some portion of the intestinal tract. And, upon reflection, you will find that a majority of the substances used in this manner have such a relation to the alimentary system especially. It is true of tannin, alum, the acetate of lead, the salts of silver, of copper, and of iron, the oil of turpentine, and many other remedies which have been used in this way. This explains the possibility that our patient first experienced her attacks of "bilious colic," falsely so-called, in consequence of the alum injections, which had been taken to suppress the hæmorrhage from the womb.

But there is another item which we must not pass over in silence. I allude to the fact that menorrhagia sometimes depends upon the presence of uterine polypi, which, being very vascular, occasion the increased and prolonged hæmorrhage at each menstrual period. And not only so, but they sometimes cause a species of menstrual colic, which greatly torments the patient. I have repeatedly had occasion to witness the most extreme suffering, sometimes gastric, again gastro-intestinal, or perhaps uterine chiefly, which was entirely due to the presence and pressure of a polypoid growth within and upon the cervix. Indeed, when I find a patient complaining of these symptoms, and learn that she has not been in the habit of taking vaginal objections, I am suspicious of the existence of some intra-uterine growth, which may be sufficient to account both for the menorrhagia and the spasmodic colic. And I recommend you, gentlemen, to be upon your guard in all cases of this kind. Do not trust too exclusively to objective symptoms, which might mislead you, and bring down reproach upon your school and your skill. Examine the case thoroughly, and do not forget the practical hints of which I have just spoken.

Menorrhagia from polypi, etc.

Treatment. — This is a case of neuralgia of the cœliac plexus, induced by the alum injections. How shall we treat it? Is it worth while trying to antidote the poison thus introduced, when so long a time has elapsed since it was taken? Or shall we prescribe for the symptoms as we find them? This is a point upon which doctors would assuredly disagree. My own opinion is that, if the attack were more recent in its origin, and we had a reliable antidote for the toxical effects of alumina, the "chemical treatment," as it is called, might promise good results. But, under the cir-

cumstances, we must base our prescription upon present indications.

The character of the pain, the period of its recurrence, the causes that induce it incidentally, and the aggravation at the menstrual period, are the prominent and most significant symptoms. Pulsatilla is the remedy. I recommend that she take a dose of it every three hours during the day. If the paroxysm returns at evening, it may be repeated every twenty or thirty minutes until the attack has passed. When the symptoms are relieved, the medicine may be given at longer intervals. I have sometimes cured this species of neuralgic colic, dependent upon maltreatment of uterine affections, by giving a few doses of atropine 3d, and again with colocynth of the same potency.

There are cases of reflex disorders in other organs, as for example the stomach and bowels, the head, the heart, and the general nervous system, but more especially in the ovaries, that will not yield to the best chosen remedies until the habit of taking vaginal injections is proscribed. This remark applies not only to injections that are harsh and decidedly irritant, but also to such as are ordinarily harmless. These cases are exceptional, and should not tempt you into an indiscriminate denial of the efficacy of such means under proper indications. It will be best for this patient not to take any kind of vaginal injection until she has recovered her health, and then only for the purpose of cleanliness.

Intolerance of vaginal injections.

Should these means fail, it would be proper to proceed upon the hint which I have given you concerning the possibility that there is a foreign body, a polypus, within the womb. The os should be so dilated with a sponge or other tents, that the proper exploration can be made. This should be done slowly and carefully, in the manner which will be detailed when I come to speak of the treatment of uterine polypi.

VICARIOUS MENSTRUATION.

Case.—Sarah A., 19 years of age, unmarried, presents herself for the first time at the Clinic. "How long have you been ill?" "Four months, sir." "Of what do you complain?" "I have very frequent spells of coughing, and sometimes have the nose-bleed." "Is the cough dry or moist?" "It is dry and hard, and

I sometimes have pain in my chest." "Do you ever raise blood?" "No, sir." "How long have you suffered from the cough?" "Four months." "And the nose-bleed?" "For the same time, sir." "Were you subject to a cough before that time?" "Never, sir." "Have you been sick in bed with it?" "No, sir." "How often do you have your nose-bleed?" "Exactly once a month." "It comes very regular, does it?" "Yes, sir." "How long does the attack last?" "I have it off and on for about three or four days." "And then it goes away and does not return at all for another month?" "It does, sir." "Is the cough worse at the same time?" "Yes, sir." "That will do; you may step into the next room for a few moments."

These symptoms are suspicious and suggestive. The attention is at once drawn to the periodical nature of her complaint. The experienced physician will recognize the menstrual function as the one most likely to be at fault. If with these symptoms he finds the menses have been suppressed, that there is amenorrhœa as a concomitant, the diagnosis is easily made out, for, in that case, the patient has what is termed *vicarious* menstruation.

I have questioned this young woman, privately, and learned that for four months she has not menstruated at all. Prior to that time she reports herself as having been quite "regular." Upon further inquiry I have also satisfied myself that she is not pregnant. This is an important point in all cases of suppression. Epistaxis may occur in plethoric persons, in the early months of pregnancy.

When a flow of blood is established from some other part than the uterus, and that flow recurs with all the regularity of the catamenial discharge, and really supercedes it, we call it vicarious menstruation. This hæmorrhage may take place from the intestinal or pulmonary mucous membranes, or the skin. Thus there may be critical hæmatemesis, or hæmoptysis, epistaxis, or hæmorrhage from the eyes, ears, axillæ, anus, bladder, the rectum, the ends of the fingers and toes, from the stump of an amputated limb, or from an ulcer. Usually, however, the vicarious flow comes from a weak and vulnerable organ or surface. Thus our patient is of scrofulous habit, narrow-chested, with manifest tubercular tendencies. The respiratory mucous membrane is delicate and susceptible. The sudden suppression of an accustomed discharge from the generative intestine imperils the textural integrity of

this membrane. You are perhaps aware that there is a close sympathy of function between the internal generative organs and the lungs. Respiration and ovulation are intimately related. It frequently happens that the first alarming symptom of incipient phthisis will be a suppression of the menses, and consequent pectoral irritation.

Now the Schneiderian membrane belongs to the respiratory system. The epistaxis and the cough, of which you have heard this woman complain, are referable to menstrual suppression. This suppression is abnormal, and consequently the remote symptoms are pathological. If it resulted from pregnancy the case would be different. Then the cause being physiological, the system would accommodate itself to the new order of things, and harm would not necessarily result.

As it is, we must restore the natural flow and relieve the suppression, or serious consequences will certainly befall the pulmonary system.

Treatment.—The indications are manifest. It is not important as in the former case, to prescribe any especial treatment for the hæmorrhage. A more important work is to be accomplished. The principle function in the female economy is suspended. There is no compensating relation between the uterine and the respiratory mucous membranes, as between the skin and the kidneys, whereby the duties of the one may temporarily be imposed upon the other. This condition of things is extra physiological and hazardous, and must not be permitted to continue.

The normal stimulus of functional activity in the ovaries and uterus becomes a morbid irritant when directed to the lungs. We must restore the conditions to functional order in the generative system; not by emmenagogues, that would compel a sanguineous flow from the uterus, but by agencies designed to harmonize the delicate sympathies now discordant. Our remedies must be directed not only to the original disease of the uterus and its appendages, but especially adapted also, to the present disordered condition of the lungs and their appendages. The pathogenesis of several of our more prominent remedies represents various shades of sympathetic relation between these two very important functions. Calcarea carb., pulsatilla, calcarea phos., natrum mur., sanguinaria can., alumina, kali carb., ferrum acet., and possibly also,

caulophyllum, and hamamelis. I recommend you to devote your attention to this important therapeutical question. Many physicians employ these remedies unwittingly for the relief of objective symptoms dependent upon menstrual disorder, without any idea whatever of their significance.

Pulsatilla is adapted to this patient's temperament and disposition, as well as to the usual pectoral and uterine symptoms presented in her case. We accordingly prescribe it for her in the third decimal attenuation, a dose to be taken three times daily. This should be continued at lengthened intervals throughout the inter-menstrual period. If she is not improved thereby, the calcarea phos. may be of service.

Of late serious doubts have been expressed concerning the genuineness of vicarious menstruation. Dr. Robert Barnes presented a paper to the British Gynecological Society last year in support of the old view that such cases did really occur, but the idea was combatted by Drs. Wilks and others. A proposal growing out of the discussion was that this "analogy of menstruation" should properly be styled a vicarious hemorrhage.*

*The British Gynecological Journal, 1886, pp. 151-188.

PART FOURTH.

THE DISEASES OF PREGNANCY.

LECTURE XVII.

THE DIFFERENTIAL DIAGNOSIS OF PREGNANCY.

The Diagnosis of Pregnancy. False Conception. *Case.*—Excessive abdominal development in Pregnancy. *Case.*—The size of the abdomen as a sign and sequence of pregnancy. Pulsatilla in mal-presentations.

Case.—Mrs. ——, aged 39, has not menstruated within the last fourteen months. About the time the menses ceased she had a severe attack of dysentery, which continued four weeks. This was accompanied and followed by evident inflammation of the bladder, the vagina, and possibly, also the womb, from which she convalesced very slowly. Five months and a half later, she married. Her husband remained with her only two days, and then left on plea of business in a distant State. In that period only two attempts were made at coitus, in neither of which did the male organ penetrate the vagina. She suffered extreme agony in these ineffectual attempts at intercourse.

During the interval, which is now eight and a half months, the husband has never returned. Four months ago she observed that the form of her abdomen began to change, becoming more and more prominent in the left inguinal and hypogastric regions. Sometimes the tumor subsides considerably, and afterwards becomes as large as before. The only unusual sensation she has experienced was that resembling the gurgling of a liquid, which seemed to pass upwards from the left hypochondrium toward the umbilicus. The abdomen is now as large as that of one who is eight and a half months advanced in pregnancy, but the chief enlargement is upon the left side. She has had no morning sickness, no caprice of appetite, no urinary trouble, and no headache since she incurred the risk of becoming pregnant. The breasts are somewhat enlarged and tender, and the areola about the nipple is quite distinct. Physicial examination of the abdomen by auscultation reveals a sound resembling the placental souffle, but it is not very decided. We have failed, after several examinations, to detect the fœtal heart-sounds.

Its great importance.

Although the whole generative function is physiological, and does not necessarily include any morbid process whatever, still its contingencies are so numerous, and the changes which it develops within the pelvic and abdominal organs or so pronounced, and withal so similar to those which attend upon certain diseases, as to render the diagnosis of pregnancy a very delicate and difficult matter. It may involve the position of your patient, and others also, in society and in the church, loyalty to the marriage relation, and legitimacy of offspring, as well as questions which are purely professional in their character, and which concern the proper treatment of the case in hand. How to decide whether a woman is or is not pregnant, is one of the lessons which you should learn most thoroughly. For nothing would so damage your reputation, as skillful practitioners, as to decide it wrongly.

Suppression of the menses.

In many respects the case before you is a very interesting one. The menses have been suppressed for a long period. And, although women sometimes reach the climacteric before their fortieth year, there is reason to believe that we should not attribute the arrest of function in her case to this cause. If there was no uterine tumor, no development of the abdomen, and none of the other signs of pregnancy were present, we might, perhaps, charge the suppression of the accustomed flow to "change of life." If she had not suffered from disease of the pelvic organs, and the suppression had not already existed before her marriage, the case would be different. As it is, we must remember that many other causes beside conception may interrupt the regularity of the menstrual function. Inflammation of any portion of the generative intestine, the vagina, the uterus, the Fallopian tubes, or of the ovaries, may cause an amenorrhœa which shall lead us to suppose a woman to be pregnant. So also inflammation of the bladder, the rectum, the intestines, and even of the lungs, may have the same effect, directly or indirectly. Displacements and deviations of the womb sometimes arrest the flow by obliterating the canal of the uterine cervix. The presence of polypi, fibroids, hydatids, and other tumors within that organ, may have the same mechanical effect. Atresia of the cervix, in consequence of the use of harsh astringent injections, or of the application of caustics, or of in-

flammation caused by an improper or ill-adjusted pessary, or of the bungling and harmful use of instruments in abortus or in labor at term, may also cause a suppression of the menses.

Therefore, while this symptom is regarded by women themselves as an almost certain sign of pregnancy, physicians look upon it as equivocal, and not by any means positive. We can not rely upon it in a given case. This woman has not menstruated for fourteen months. The period during which the arrest has continued is longer than that proper to gestation. Shall we therefore conclude that she is not pregnant, because she has passed the ninth month without being delivered of a child? That would not be a safe or satisfactory conclusion. For, in some cases, the catamenia are arrested for weeks and even for months, and conception takes place before they have been restored. This often happens with women who become pregnant again while they are nursing their children, and before they have begun to menstruate after delivery. So our patient might have had a suppression of this flow for six months or more, and then have become pregnant after her marriage, and before the menses had re-appeared.

An uncertain sign.

With respect to this symptom, therefore, there are so many irregularities, complications and exceptions that it is not to be regarded as a positive sign of pregnancy. At best, it is only corroborative. Taken in connection with other symptoms, it may help to settle the diagnosis, but singly and alone it is of very little consequence. An additional reason why we should not place an exclusive dependence upon it is that we are always compelled to take the patient's version of the facts in the case. If she is anxious to have children, or, for any ulterior reason, desires to have it decided that she is pregnant, she may claim that for a given time she has not menstruated at all, when this is not so. Or if, on the other hand, she is disposed to mislead the doctor, she may insist that her courses are regular, and normal in every respect, when in truth, they have not appeared for months.

It is the habit of some physicians to prescribe marriage as a remedy for suppression of the menses, with almost a total disregard of its cause, and of the consequences of taking such advice. It is my duty to warn you against this practice. For it is altogether

Marriage as a remedy for suppression.

wrong. Thousands of persons have been made wretched, while few, very few, have been cured by it.

In pregnancy it is not at all uncommon for the abdomen to be developed upon one side more than upon the other. Usually, however the uterine tumor inclines to the right hypochondrium, for the alleged reason that the rectum pushes it in that direction as the womb passes above the superior strait at or about the fourth month. In this case however, the tumor is at the left side, and has been from the first (left lateral obliquity). Its size and prominence, according to the patient's story, appear to vary somewhat, a fact which is easily enough explained upon the theory that there is an accompanying meteorism of the abdomen, which subsides of itself and recurs again. This would also account for the gurgling sensation, which is incidental, and not, in any sense, distinctive of pregnancy.

Uterine obliquities.

We need not discuss the negative value of the absence of morning sickness, nausea, caprice of appetite, quickening, headache, toothache, vesical tenesmus, and other occasional symptoms of pregnancy. In many examples of gestation, they are wanting altogether from first to last. If she has really passed the eight month, ballottement would not be available.

But the changes in the areola about the nipples, and in the breasts themselves, are more significant. In pregnancy, whatever changes take place in these glands affect both breasts alike. This is not true of any disease to which they are subject. Consequently, when you find that both these organs are becoming larger, warmer, and softer, especially in those who have not already borne children, or been pregnant before, or if there is a slight secretion of milk, it is a suspicious sign of pregnancy. More especially is this true if the nipple is more erectile, vascular, and granular on its exterior and tip than it has been, and if the circle of discoloration about it is more pronounced and decided. Here you have a good illustration of this subject. You observe the glandular follicles about the nipples are considerably enlarged, and that they pour out a quantity of fluid which gives the areola the appearance of having been oiled. The cellular tissue beneath and within the nipple is in a state of turgescence. The discoloration about the nipple is so marked that you can see it

Changes in the breast.

across the lecture-room. This looks as if our patient were really pregnant, and some authorities would decide the question upon the evidence afforded by this single symptom. But we must look a little further.

The fœtal heart-sound.

If we could detect the fœtal heart-sound, resembling the ticking of a watch beneath the pillow, we should have a positive and unmistakable sign of pregnancy. But this we have failed to elicit. And yet it may be present. The mere fact that we fail to detect it, is no sign that a woman is not pregnant; while, if it can be heard, we *know* that she is *enceinte*. It is not safe, however, to depend upon a single examination in a case of this kind. For you may imagine that you hear it when you do not, or it may be impossible to hear it to-day, and the easiest thing in the world to note it to-morrow.

The uterine souffle.

The uterine souffle is so frequent an accompaniment of abdominal and uterine tumors, aneurism, etc., as not to afford any reliable criterion of the pregnant state. At best it is only a confirmatory sign, which may be classed as a probable, but not as a positive symptom of pregnancy.

Changes in the cervix.

There is still another means of exploration that, in a case so advanced as the one before us, may help to settle the diagnosis of pregnancy. If this woman really conceived eight and a-half months ago, the changes which have taken place in the uterine cervix should be quite marked and decisive. And so I find them to be. The neck of the womb is shortened and almost obliterated, soft, somewhat patulous—although she is a primipara—and in such a condition as can only attend upon gestation.

This, therefore, enables us to decide that Mrs. —— is undoubtedly pregnant. In reaching this conclusion, we may rely upon the changes in the breast, the discoloration of the areola, the characteristic softening and shortening of the cervix uteri, the abdominal development, and the placental souffle. All of these symptoms are taken collectively, and within the space of a month, at least, I have no doubt but that our diagnosis will be confirmed, (*Exit the patient.*)

Some of you may have doubted the possibility of conception without penetration of the male organ during coitus. Numerous cases are recorded in which this result has followed imperfect in-

tercourse on account of some mechanical obstacle, as an imperforate hymen, or an inveterate vaginismus, and the like. In resolving such doubts you have only to remember that the essential condition of impregnation, is that the vitalizing part of the male semen shall be brought into contact with the ovum of the female somewhere within the generative tract. The discharge of that semen within the vulva may under certain circumstances and exceptionally, produce the same result that would follow the complete act. But such cases are by no means so frequent as some have imagined.

MOLAR PREGNANCY—FALSE CONCEPTION.

In my obstetrical course you were told that, in forming a correct diagnosis of pregnancy, an exclusive reliance upon any of its presumptive or of its probable signs would be likely to mislead you.

Case.—Mrs. W——, aged 42, was married eight months ago. She was at that time a widow; but had never had any children. She says that within the eight months, or since her last marriage, she has not menstruated. Prior to that, menstruation was normal in every respect. She has had no vicarious hæmorrhage, or leucorrhœal flow. When the menses ceased she began to have morning-sickness, which continued for six weeks. She had also various caprices of the appetite, with faintness before dinner, and inordinate craving for food. There was no perceptible development of the ovum, or enlargement of the abdomen. The mammæ became swollen and sensitive.

Six days ago, after walking to church, upon the icy pavement, she began to "flow." The hæmorrhage from the uterus was passive, irregular, and slight, until the third night, when, after having had a great deal of pain about the back and loins, with some headache and debility, she awakened out of sleep very much frightened by the escape of a fleshy mass from the uterus and vagina. The flowing soon ceased, and to-day she has ventured to walk to the Clinique. In addition to the details already given, she says that all her unpleasant and indiscribable feelings about the hips and abdomen were greatly relieved by a bandage worn tightly about those parts.

Morbid anatomy.

This was an example of spurious pregnancy, sometimes styled false conception, pseudo-pregnancy, quasi-gestation, molar gestation, and should not be confounded with pseudo-cyesis. The product was a fleshy mole, which

the patient has preserved, and brought with her, and which we will now proceed to examine. Fortunately for us, she has kept it in water, and the examination will not be difficult. You will observe that the mass is about the size of a small lemon. On cutting through its walls, we come down to the amnion, which is intact. Slitting this open, a slight flow of its proper liquor escapes. Here is the rudimentary embryo, which, although it has been eight months in utero, is not larger than it should have been at the sixth week of pregnancy. The undeveloped funis is but a mere thread, and ragged at its free extremity. Between the outer membranes, or rather within the thickened wall outside of the amnion, blood has been effused, and small coagula are seen.

These appearances indicate an arrest of embryonic development. Conception probably took place as it should have done, and all went on well for a limited period. But, for some unknown reason, the nourishing supplies that were derived from the uterine surface, and designed for the ovum, were appropriated to the abnormal, pathological growth of the chorion. The little embryo was therefore sacrificed. It died from a lack of those elements which were necessary to the development and repair of its tissues, and the hypertrophied chorion and decidua constitute this carneous or fleshy mass which is called a mole.

Death of the embryo.

Although women of all ages are liable to this form of spurious pregnancy, yet it is a singular fact, that those who have reached their fortieth year seem more prone to it than those who are younger. As in the case before us, it is not uncommon among women who marry a second time late in life. The formation of these moles (which are the consequence, not the cause, of the death of the ovum) is intimately connected with the history of abortion. Rigby says most expressively: "When any cause has occurred to destroy the life of the embryo, during the early weeks of pregnancy, one of two results follows, either that expulsion takes place sooner or later, or the membranes of the ovum become remarkably changed, and continue to grow for some time longer, until at length they form a fleshy, fibrous mass, called a mole, or false conception."

Influence of age.

The true mole is always a product of conception. When the mass has been expelled, it is not difficult to recognize it, and to

separate it from spurious formations which resemble it in some respects, by the presence of a rudimentary embryo within its cavity. If, however, the embryo died during the first month, it may have been dissolved, and we shall, therefore, fail to find it on dissection. Such a mole may be retained within the uterus for many months, or it may be cast off and expelled at or about the period at which the menses should have returned had the woman not been pregnant. It sometimes happens that the hæmorrhage attendant upon labor of this kind is profuse and long-continued. Generally, however, it ceases with the delivery of the fleshy mass. Ambrose Paré cites a case in which a mole was retained in the womb for seventeen years.

Retention of embryo.

Among the clinical points worthy of note in the case before us, you will observe that, until her last marriage, this woman's menstruation was habitually regular and healthy. It is important to take this fact into account, for it sometimes happens that menstrual disorders predispose to abnormal developments of the membranes which enclose the ovum. Membranous dysmenorrhœa may indirectly cause this form of spurious pregnancy.

Molar pregnancy and menstruation.

Following the arrest of the catamenia there was no vicarious discharge. Morning sickness set in, and our patient was supposed to be pregnant. This continued for six weeks, or most probably until the death of the embryo, and was accompanied by the capricious appetite, fainting, etc., to which so many women are liable after conception.

Probable signs of pregnancy.

For the best of reasons there was no observable change in the abdomen. The usual development of the uterine tumor was prevented. There was no necessity for the womb to ascend out of the pelvis, as it would have done had gestation gone on properly. The embryo was dead, and its growth became impossible. The uterine cavity was already large enough to contain it, and hence there was no need of its further expansion. If the case had been one of hydatids (falsely so-called), the abdominal enlargement might have taken place. For these hydatigenous growths some times fill the womb, and cause it to enlarge in very much the same manner as if it contained a healthy fœtus. They may also be retained even some months beyond "term" before they are

finally expelled. You should not forget that these uterine hydatids are really due to a defective organization of the placenta, or, more properly speaking, to a cystic degeneration of the villi of the chorion.

We have no means of knowing the precise changes that took place in the breasts in this case. It is possible that the areolæ may have been discolored, and the follicles about the nipples developed, as in true pregnancy. These glands are liable to become swollen and sensitive from other causes, and this general symptom of pregnancy would therefore be very uncertain and unreliable. At this time there is nothing peculiar in the appearance of the mammary glands. Usually, in similar cases, the series of changes proper to these organs, and which provides for the extra-uterine needs of the infant, is arrested when, from any cause, the embryo dies. Even when the mole or the hydatid mass is carried to the ninth month, or beyond, before it is extruded, there is generally little or no secretion of milk.

From these remarks you will infer that, although the suppression of the menses, the morning sickness, and the fickleness of appetite, are to be regarded as presumptive signs of conception, and may signify that the fecundated ovum has reached the uterine cavity, and commenced to develop therein, still they do not afford a certain criterion of the progress of gestation. They may have marked its commencement; but do not indicate its possible arrest or failure. This patient had the morning sickness during the first six weeks, but afterwards the only remaining symptom of pregnancy was the non-appearance of the menses. And the prolonged arrest of this flow is to be accounted for by the presence of this foreign body, or mole, within the womb.

These signs do not indicate the progress of pregnancy.

Concerning the final cause of labor in this form of pseudo-pregnancy, various theories have been advanced. Perhaps the most reasonable is that which refers it to the menstrual cycle, when the physiological afflux of blood to the uterine, mucous membrane facilitates, if it does not actually insure, the entire separation of the decidua. At this particular period the cervix uteri is also more or less relaxed, as if menstruation were coming on, and some slight exciting cause, as, for example, a fall, or sudden shock, or forcible exercise, as in

Cause of the delivery.

walking on an icy pavement, may percipitate labor. Dilating pains follow or accompany the hæmorrhage. In due time expulsive contractions set in, and the womb is emptied of its contents. The suffering may be either slight or severe, its quality and degree varying with the laxity of fibre ot the uterine neck, the rapidity of the labor, the size of the mole, and the temperament of the patient. It is only in exceptional cases that the mass drops away with so little pain as this patient had. Although there are women who frequently and habitually suffer from this form of spurious pregnancy, it does not follow that one such mishap is certain to be succeeded by a second of a similar kind. Even at her age, Mrs. W. might, perhaps, pass through another pregnancy successfully.

In every case of this kind it is of great importance carefully to examine the mass that has been expelled. For this purpose it should first be soaked in water for two or more hours, and then cut open so as to reveal its internal structure.

EXCESSIVE ABDOMINAL DEVELOPMENT IN PREGNANCY.

It sometimes happens that symptoms which are analogous to those afforded by the patient who has just left the room, depend on other causes than those already named. Only yesterday I was consulted by letter in a case of this kind. My patient writes:

Case.—I had called myself seven months advanced in pregnancy, but many things conspire to make me think it probable that I am at least eight months along. I am *exceedingly* large, and from my extreme size, suffer greatly from faintness. For a fortnight I have endured severe pain in my left side, which nothing will relieve, although sitting up aggravates it. It has become almost unbearable, wearing my life and strength away, and giving me no rest, day or night.

"My little ones have always been large, weighing ten or eleven pounds, and you know I am a wee bit of a woman. But now the doctor thinks it probable that there may be two of them, which are small but amazingly strong and active, while there is evidently a great quantity of water contained in the womb. The child was in such a position as to cause much suffering and uneasiness, it being apparently *across* the pelvis. The doctor gave me pulsatilla, and whether it produced the effect or not, one week later it was pronounced 'all right.'

"Will you be so kind as to inform me if there is anything that will relieve this pain in my side? If it should continue, would it

not be well to hasten delivery, before I am altogether worn out? I frequently have severe and almost unbearable contractions, which cause the abdomen to feel as if turned into stone."

This case presents several points of practical interest. As you will observe, it supplies additional details, and is an excellent appendix to the former one. Gestation is more advanced, and the symptoms are different.

During pregnancy the size of the abdomen is relative. There is no actual scale of measurement or development for all, or even for single patients, who are successively pregnant. Hence the absolute impossibility of judging by this sign whether a woman is in the seventh or eighth month. The abdomen is proportionally larger in short than in tall women, in multiparæ than in primiparæ, in those who are pregnant with twins than in case the womb contains but a single fœtus. Its prominence varies with the laxity of the abdominal walls, the position of the uterus, the size of the fœtus, and possibly its position, and with the quantity of amniotic liquor that surrounds the child or children. It may also become very large from intestinal indigestion and tympanites, abdominal dropsy, uterine or ovarian tumors, and malformation or dropsy of the fœtus.

Size of the abdomen as a sign and sequence of pregnancy.

Whatever their cause, these symptoms give rise to suffering and apprehension. They convert a natural process into a species of martyrdom, which, luckily, is self-limited.

Diagnosis. — You will sometimes find it extremely difficult, and, indeed, quite impossible, to determine the cause or causes of these symptoms and the lesions, functional and organic, of which they are the token. A pendulous belly, with undue size of the abdominal tumor, occurs more frequently in spare, ill-conditioned women than in those who are short, plump, and well nourished. The muscles are thin and flabby, and the patient is more or less anæmic.

If the extraordinary size depends on the position of the uterus, that organ will be found to incline forwards, over the pubes, or to one or the other side of the abdomen — usually to the right side. If upon the size of the child, its outline can be felt through the abdominal walls. Note should also be taken of the size and weight of former children, if the patient has ever been pregnant before. The chances are that, having always had very large child-

ren, my correspondent is carrying one now, and that most of her symptoms are referable to this fact. Women who have had children that weighed nine pounds and over, very rarely have twins in a subsequent pregnancy.*

The position of the fœtus in utero would be more apt to modify the shape than the size of the tumor. The position of the child is so frequently changed, even up to the time that labor commences, that a constant and uniform increase in the size of the abdomen could hardly depend on this cause.

The characteristic symptoms by which you would recognize an extraordinary enlargement of the abdomen, dependent on dropsy of the amnion, are the following. It is an acute affection, the tumor is circumscribed, disproportionate, is developed rapidly, and is most likely to occur in those who have previously had, or at the time are having, dropsy elsewhere. It almost never occurs in those who are not of a dropsical diathesis. To the hand, when placed upon the abdomen, the movements of the fœtus seem distant and indistinct. The fœtus is almost always small, feeble, and illy-developed, and generally survives its birth but a short time. The tumor may develop to such an extent as to occasion the most alarming dyspnœa and syncope, by pressing upon the diaphragm and adjacent viscera.

Intestinal disorder may produce an excessive enlargement of the abdomen in pregnant women, either by causing dropsy of the peritoneum, or by the inflation of the bowels with gas. In the former case the hepatic function is almost always implicated. In the latter the intestinal glandular apparatus. The symptoms would vary, and you would not fail to recognize them.

Uterine and ovarian tumors would have a history that commenced before pregnancy. Neither mal-formation, nor hydrocephalus, nor general anasarca of the fœtus, could be diagnosticated with certainty prior to delivery. Twin pregnancy might be detected through the fœtal heart sounds.

Prognosis.—It is an exceptional case for any woman to pass through the state of pregnancy, from beginning to end, without complaining of these or analogous symptoms. And, strange to say, the rule appears to be that, with certain qualifications, those who are most prone to these sufferings are least liable to have

* At birth this patient's child weighed eleven pounds.

difficult labors, or tedious and dangerous convalescence in their lying-in. The chief danger from any of these symptoms, at whatever period of gestation they may occur, is from abortion. If you can avert this calamity, the patient will probably do well. The greater the perturbation of the nervous system, or the more the urinary and hepatic functions are deranged, the more decidedly this unfortunate result is threatened. Dropsy of the amnion is more fatal to the child than to the mother. In all cases you should inspire your patient with courage, and with the hope that all may yet be well. A lugubrious, long-faced doctor would always be an additional affliction to her, but especially under these circumstances.

Treatment. — The general indication is to make the woman as comfortable as possible, to turn aside the contingencies that threaten miscarriage, and to bring her through to term as quietly and safely as we may. To this end the directions which I gave you in my remarks upon the case that preceded this are equally appropriate here.

The remedies indicated will vary with the special pathology of the case, or as the phrase is, with the symptoms presented. If the enlargement is due to abdominal or to amniotic dropsy, those remedies would be called for which are suited to the dropsical diathesis, and you would select from among them that one which is most appropriate to the symptoms of each individual case. I should caution you, however, against prescribing the apis mellifica in a low potency in case of dropsy of the amnion, lest it should precipitate a miscarriage.

Incidental disorders of the intestinal tract suggest their own remedies, among the more prominent of which are arsenicum, chamomilla, nux vomica, mercurius, china, colocynth, belladonna, and veratrum.

The pressure from a misplaced gravid uterus may sometimes be greatly relieved by a change of position on the part of the patient. Or bandages and supports, if properly adjusted, may tend to make life more tolerable, by allowing the patient to move around and to take exercise. They may also be made to add to the strength of the abdominal walls in case the child is preternaturally developed, or where there are twins.

I think that the induction of premature labor would not be jus-

tifiable in a case of this kind, unless the patient were in imminent danger from suffocation by dropsy of the amnion. I can imagine, although I have never met with such an example in practice, that this expedient might be necessary as often, perhaps, as once in a thousand cases. Be sure you do not resort to it, gentlemen, on your patient's prescription instead of your own.

The induction of premature labor.

Concerning the alleged power of pulsatilla to correct a malpresentation of the fœtus at any period of gestation, or in labor at term, I am wholly skeptical. Up to this date (Feb., 1887) there is not a single case on record which clearly proves it to be possessed of any such properties. In every published instance the testimony is as invalid and fallacious as in that which we have just had under review. This patient's physician was not certain in his diagnosis. First he said she had twins, then dropsy of the amnion, and finally the (one) child was "apparently across the pelvis." Pulsatilla was given, a spontaneous change followed — as has probably happened with every fœtus from the time of Cain until now — and the result was accredited to the remedy that had been swallowed! Such things may not be impossible, but they are exceedingly improbable.

Pulsatilla in mal-presentations.

THE NEWER SIGNS OF PREGNANCY.—Hegar's new sign of pregnancy is available as early as the sixth week. It consists in recognizing by the bi-manual touch, the peculiar form of the uterus, which depends upon the growth of its body without any change in the cervix before the close of the second month. This shape of the organ resembles that of "an old-fashioned fat-bellied jug."

Hegar's sign of pregnancy.

Tait's expert method is: First there is fluctuation one to the liquor amnii, and this declares its cystic nature. If the hand is lain gently on the parietes a rhythmical contraction of the uterus by which at one time it is as hard as a cricket ball, and at another, soft as a cushion, will become perfectly evident. This alternate contraction and relaxation of the pregnant uterus "is a method of diagnosis which, when once made apparent, can never be mistaken for anything else."

Tait's Sign of pregnancy.

LECTURE XVIII.

BILIOUS COLIC DURING PREGNANCY.

Bilious colic in pregnancy; Albuminuria in ditto; the Nausea and Vomiting of do.; Varicose veins.

We will devote the first part of this hour to the study of a case of bilious colic in a woman who is pregnant.

Case. — Mrs. D——, aged 30, a healthy looking woman of bilious temperament, with black hair and eyes, is six months advanced in her third pregnancy. She complains of repeated attacks of bilious colic, which are accompanied by the usual symptoms of that disorder. Sometimes the paroxysm is very acute, and of brief duration, coming on abruptly and going off in the same manner. Again, the pain is more dull, steady, and persistent, lasting perhaps for twelve hours or more. These paroxysms are not referable to errors in diet, or to excess of exposure, labor or worry, as in ordinary bilious colic, but recur without any obvious cause, sometimes waking her out of a sound sleep. She had them throughout both of her former pregnancies, but never at any other time. She carried both of her children to term. Unless they have continued for six hours or more, the attacks of pain are not followed by jaundice. Her father and two of her uncles were subject to severe fits of bilious colic.

This case illustrates the peculiar relation existing between the uterus and the liver,—a subject of study which is really more important than you may have supposed. For, not only are these viscera organically related through the sympathetic and spinal nervous systems, but their vascular connections also are peculiar and significant.

The vascular relation between the uterus and the liver.

The portal vein receives blood from each and all of the chylopoietic organs. Without this supply of blood from the stomach, the intestines, the spleen, the pancreas, and the mesentery, the curious and complex function of the liver could not be properly performed. But this is not all. The vaginal, hæmorrhoidal, uterine, and ovarian plexuses of veins also communicate, by anastomoses,

with the portal system, as well as with the inferior vena cava. A portion of the return current of blood is therefore conveyed directly from the pelvic organs to the liver, *en route* for the general circulation.

Whether this vascular arrangement really implies such a compensatory relation between the hepatic and uterine functions as was insisted upon by Stahl and others, it is foreign to our present purpose to inquire. Its very existence suggests the possibility of diseased conditions which shall depend upon some derangement of the circulation in these inter-communicating vessels.

One of the most marked of the anatomical changes consequent upon conception is found in the uterine veins. They become enlarged into canals and sinuses, with an increase of capacity which is in ratio with the nutritive demands of the contained embryo or fœtus. Being destitute of valves, the only safeguard against a regurgitation and stasis of blood in them is their tortuosity, and perhaps also, as Köllicker has shown, the temporary supply of muscular fibres to their middle coats.

Vascular changes in the gravid uterus.

A woman becomes pregnant. Prior to this she may have been very healthy. She may or may not be of a bilious temperament. But within the month, and sometimes almost immediately, the hepatic and intestinal functions are deranged. She has nausea and vomiting, which, as in bilious affections uncomplicated with gestation, are worse in the morning. The tongue is furred, the breath foul. She has no appetite for breakfast, there is disgust of water, almost invariably constipation, with bilious headache, highly-colored urine, and hypochondriasis. The matter vomited consists chiefly of mucus, but the paroxysm does not terminate until more or less of bile, it may be only a few drops, is ejected.

Bilious symptoms in early pregnancy.

These symptoms are commonly known as "bilious." That they are contingent upon pregnancy is a matter of every-day observation. But that the extraordinary development of the vascular system of the uterus consequent upon conception is their indirect cause, is not so generally recognized. This functional derangement of the liver may arise from sluggishness of the venous circulation in the pelvic organs. The uterus becomes a diverticulum which receives

The uterus a diverticulum.

and retains an unusual quantity of venous blood. Its weight is increased, it suffers a temporary prolapse, pressure therefrom increases the obstruction in the local circulation, and the parts which are even remotely related through a common vascular apparatus are almost necessarily implicated.

Venous engorgement in uterine affections.

A similar result may happen in the case of uterine deviations of whatever kind, but more especially in prolapsus, procidentia, and retroversion, in uterine scirrhus, fibroids, or polypi; in chronic metritis, dysmenorrhœa, amenorrhœa, and uterine ulceration. As hæmorrhoids and dysentery, and similar diseases in the ano-pelvic region, are very liable to be complicated with some hepatic disturbance, so it is with these different lesions of the womb. And since a proper supply of bile is indispensable to intestinal digestion, we see at a glance what a blow is aimed at nutrition when the function of the liver is thus deranged. In this list of diseases there is not one which is not usually accompanied by more or less of indigestion and inanition.

Cholestræmia contingent upon pregnancy and uterine disease.

Now the chief office of the liver, as an *excretory* organ, is to eliminate the cholesterin, which results from the destructive changes going on in the nervous substance or neurine. This post-organic product would be poisonous if retained in the blood, and it is therefore expelled by way of the hepatic and intestinal outlet, just as urea escapes through the urinary apparatus. And, as we observe that the muscular tissue, of which it was so recently an integral part, is peculiarly susceptible to the toxical effects of an excess of urea in the blood, so the nerve-centers, the brain especially, are extremely sensitive to the action of cholesterin. Hence the hypochondriasis of pregnancy, and of most chronic uterine affections, which owes its origin to torpidity of the liver, and to the imperfect performance of its excretory function. And hence, also, the possibility of such suffering as that of which our patient complains. For biliary calculi consist chiefly of cholesterin, and their existence in a given case is proof positive of hepatic derangement.

Bilious colic is therefore a contingent of pregnancy. There are those who, like Mrs. D., never have it except when they are pregnant. Some, however, are liable to it whenever they menstruate;

others in consequence of excessive sexual intercourse or excitement; and I have known it to be caused by wearing an ill-adjusted or a misplaced pessary.

Treatment. — We have proof that a knowledge of the organic relations between the uterus and the liver is practically important, not only in the clinical history of similar cases, but also in the known common influence of different remedies over these organs. Take, for example, nux vomica, aloes, podophyllin, and chamomilla, as they are most frequently prescribed in uterine and intra-pelvic affections generally. The symptoms which guide to the selection of any of these remedies usually pertain to the liver, or to some portion of the intestinal tract, rather than to the uterus and its appendages.

Common influence of remedies on the uterus and liver

There are, it is true, many exceptions to this rule, but the clinical fact is suggestive. In uterine lesions especially, the dial-plate upon which their characteristic symptoms may be read, and which must be consulted before we can treat them understandingly and successfully, is often located where you would least suspect it, — sometimes in the liver, or in some portion of the gastro-intestinal tract: again in the heart, the brain, or the general nervous system, and even in the eye. Hence a great variety of remedies may be requisite in uterine therapeutics, and the necessity of careful study in their employment must be apparent to you all.

The symptoms of uterine disorder may be remotely located.

Before the termination of pregnancy, and while the cause is still in operation, we should be chary of promising a radical cure in a case of this kind. The disease being self-limited, its symptoms may not wholly disappear until term. In exceptional cases, however, there may be but one or two attacks of the colic. During the paroxysm the indication is to afford prompt relief from the suffering. Among the remedies most frequently employed for this purpose are nux vomica, podophyllin, chamomilla, atropine, and chelidonium. With some practitioners the dioscorea is in excellent repute. Inhalations of ether or of chloroform may be justifiable in extreme cases. In hysterical subjects, with threatening spasms, ignatia, belladonna, or hyoscyamus may be called

This form of bilious derangement self-limited.

Remedies during the fit.

Local palliatives.

for. Dry heat, in the form of hot plates wrapped in flannel, or bottles of hot water, or clothes wrung out in hot water and applied over the seat of the pain, are sometimes most grateful and beneficial. The warm bath is contra-indicated in case of bilious colic occuring in a pregnant woman.

China is perhaps the best prophylactic against bilious colic. It seems to hold some specific relation to the formation and excretion of cholesterin. We do not know precisely what that relation is. Whether it stops the destructive metamorphosis of neurine, and thus limits the production of cholesterin, or helps the liver to eliminate it more readily, is an unsettled question. At all events, we may avail ourselves of the clinical fact that it serves to palliate and to prevent painful attacks of this disorder. When prescribed with this intent, it should be given once or twice daily. In a case like the one before us, china will not interfere with gestation. Mrs. D. will take this remedy morning and evening.

Prophylaxis.

Her diet should consist of albuminous substances, and fruits. Fats, and all kinds of pastry, would be poisonous. The same is true of coffee and malt liquors. She should have daily exercise in the open air, and be especially careful to avoid all sources of mental anxiety.

Diet; mental and physical exercise.

ALBUMINURIA IN PREGNANCY.

Case.—L. W. C——, 19 years of age, primipara, weighing 180 pounds, was admitted to the hospital at the eighth month of pregnancy. She is of full habit and is troubled with headache and "flushes." On being tested by heat and nitric acid, the urine was found to be highly albuminous. She had previously taken apocynum can., and arsenicum alb., without any benefit. The feet and legs were enormously swollen, so that she could not walk or stand with any degree of comfort. She felt wretched, nervous and apprehensive.

She took mercurius corrosivus in the 3d decimal trituration once in three hours. The proportion of albumen in the urine lessened almost immediately, and continued to decrease, so that there was a mere trace of it the day before her delivery. Although we had anticipated convulsions, her labor came on naturally, and was completed without a single untoward symptom. Her child is now three weeks old, and all the dropsical and urinary symptoms have entirely disappeared.

I do not know where you will find a case of disease which is

the cause of greater mental strain and anxiety than such a one as this has been. To feel and realize that in all probability a woman who is approaching term will have puerperal eclampsia, and that her life and that of her offspring depend almost entirely upon your skill, is a great load to carry. It should interest you to know how such a calamity may sometimes be averted.

Signs of convulsibility.

A pregnant woman at the eighth month may have dropsical symptoms which do not forbode any ill of this kind. But if she has decided albuminuria, with dropsy of the face and extremities, with or without amaurosis, the probabilities are that, unless this is relieved, her delivery will be accompanied by convulsions. How to remedy this single symptom may therefore be a very important question for you to decide.

Mercurius corrosivus.

Experience has led me to place great confidence in the mercurius corrosivus. I have prescribed it very frequently to fulfil this precise indication, and it has seldom disappointed me. The clerk has furnished me notes of another case which occurred in the hospital some weeks ago, in which the effect of this remedy was equally satisfactory.

Case.—Nancy J., aged 29, primipara, was eight and a half months advanced in her second pregnancy when she was admitted to the hospital. She reported that she had had dropsical symptoms for two weeks already. The legs and ankles were very much swollen, the ankles being so puffy that the infiltrated integument hung over her slippers. The face and eyelids were œdematous, and she complained of much headache. On examination the urine was found to be albuminous. She also had a partial amaurosis, which began and subsided with the dropsical symptoms.

She took the mercurius corrosivus 3, a dose every three hours. The albumen disappeared from the urine, so that the day before her delivery no trace of it could be discovered. She passed through parturition and lying-in without any convulsions.

There is no infallible prophylactic for convulsibility.

In presenting these cases the idea which I design to convey is not that this, or any other remedy, is an absolute specific for ante-partum convulsibility. There is no real prophylactic of puerperal eclampsia. But if in one case in ten, you can recognize the incipient symptoms of this dreadful disease and avert it, you should know how to do it. Therefore, I recommend you not to fail to apply

the tests for albuminuria whenever any of its symptoms are present in the latter months of pregnancy, and not to forget that the mercurius corrosivus is in many cases an invaluable remedy for it. When Nature "flags the train" we should always take the hint.*

ABDOMINAL CRAMPS AND PAINS IN PREGNANCY.

Case.—Mrs. S—— is six and a half months advanced in her second pregnancy. For three weeks past she has complained of occasional pains and cramps in the abdomen. These sufferings are increased by exercise, slight pressure, emotional causes, and especially by the too vigorous movements of the fœtus in utero. Upon examination I found the abdominal parietes somewhat attenuated, and the uterus in the position of the right lateral obliquity. Otherwise I discovered nothing abnormal.

Unless the uterus is very decidedly displaced, abdominal and sacral pains, cramps in the limbs, and like symptoms, are not very apt to worry the pregnant woman prior to quickening. After the fourth month, however, and in exceptional cases as early as the third, they may be the cause of much suffering. They depend on the changes which the uterine and abdominal structures necessarily undergo in consequence of the development of the fœtus. As you would naturally suppose, these symptoms are most frequently met in primiparæ—those who have never borne children before. Occasionally we find a patient who always experiences them during pregnancy.

Cramps, etc., after the fourth month.

As the uterus enlarges there is a gradual distention of the abdominal walls. A very natural consequence of this distention is the production of muscular and neuralgic pains. These pains, which are sometimes general, again local—as in certain forms of hysteria—sometimes shooting and cramp-like, and again more constant, are very likely to be referred to the points of attachment of the various muscles which comprise the parietes of the abdomen. They may be felt in either the right or the left hypochondrium, in the iliac or umbilical region, and finally may settle into the permanent lumbar distress which in many cases precedes abortion. Not unfrequently, on account of its tension and

* In all suspected cases it is a good rule to examine the urine occasionally, more especially after the sixth month. This is a simple, and withal an important matter, for the renal complications of pregnancy and of parturition are mainly avoidable.

extreme tenderness, when the belly has become hard and full, the skin is the seat of the difficulty. In such a case there is a neuralgic affection of the cutaneous nerves, which is frequently mistaken for inflammation of the womb and its appendages.

In most cases like the one before you, and whatever its seat and character, the suffering is increased by motion. Any exercise which renders it necessary for the patient to breathe more deeply and frequently than natural; coughing or straining at stool; riding or walking; turning in bed, or getting into an upright from a horizontal position; the rolling of flatus in the bowels, or the movements of the fœtus in utero; may produce or aggravate it. It is usually worse when upon the feet than when sitting, and when sitting than when lying. There are, however, many exceptions to this rule. Excepting towards the end of pregnancy, say after the seventh month, it is generally worse in the day and better at night. It may be increased by mental emotions, as fright or anxiety; and is more annoying and obstinate in those who are of sedentary habits than with the active and industrious. Lean women are more liable to it than the more robust. In rheumatic and neuralgic subjects it may depend upon vicissitudes of wind and weather for an exciting cause. Puny, nervous, and delicate children are more active and restless in utero, and therefore occasion more suffering of this kind, than those that are strong and vigorous.

Motion increases the suffering.

Diagnosis. — With respect to the prognosis and treatment, it is very important to be able to differentiate between the several varieties of abdominal pains to which pregnant women are subject. Among the lesions to which they are especially liable, we should separate the peritoneal from the neuralgic, the muscular from the uterine, and the ovarian from the intestinal.

There is a spurious or false peritonitis, which rarely occurs except at the menstrual period, or at the time in the month which corresponds to it during gestation. It usually commences with a chill and local pain of an acute, lancinating character, in the region of one or both ovaries. The corresponding limb is flexed, and cannot be straightened without great increase of suffering. The affected part is exceedingly tender to the touch, and pressure, slight or severe, is insupportable. This pain becomes gradually more diffuse. These

Spurious peritonitis.

symptoms are accompanied by more or less fever and constitutional disturbance.

In the cutaneous neuralgia, although the diagnosis is not difficult, the most unpardonable blunders are frequently made. Tarnier's remarks upon the subject are exceedingly appropriate, and I quote them :* "Having for some time made a special study of these abdominal, inguinal, and lumbar pains, we are convinced that very often they are due to neuralgia of the cutaneous nerves from the collateral branches of the lumbar plexus. To be assured that such is the case, it is only necessary to test carefully the sensibility of the skin in these regions, either by rubbing it rudely with the end of a pencil, or by raising it in the form of a fold which is to be gradually pinched between the fingers. Pressure ought also to be made all along the crest of the ilium, in the direction of the genito-crural nerve. Should we be satisfied with merely questioning the patient, or depressing the walls of the abdomen by the hand, we would incur the risk of obtaining very little information, or of suspecting the existence of deep-seated visceral pain when the skin only is affected. This mistake, which we see committed every day, would be avoided by taking the trouble to make the above-mentioned examination, and we cannot recommend it too highly. The principal parts affected by this neuralgia are the lumbar, iliac, hypogastric, and inguinal points, though the pain may appear in some other portion, of greater or less extent, of the skin of the abdomen. Sometimes confined to a circumscribed point, it occasionally invades an entire half of the abdominal walls. It very rarely affects both sides at the same time with equal intensity."

Diagnosis from cutaneous neuralgia.

If the abdominal muscles are the seat of the suffering, the pains are cramp-like, and accompanied by knotting of the fibres, which is worse upon pressure or motion. The suffering between the severest paroxysms is referred to the points of origin and insertion of separate muscles. This form is most frequent in rheumatic subjects, in whom there may be a sudden metastasis to either of the larger articulations. It sometimes arises from traumatic injuries, as, for example, a blow or fall upon the abdomen.

Characteristic symptoms.

* Cazeau's Midwifery, Revised and Annotated by S. Tarnier. Phila. : 1868. p. 521.

Metritis is a rare concomitant of gestation, but we not unfrequently encounter a species of uterine colic that is apt to be mistaken for one of the former affections. Hysterical women, who are highly emotional, and, I may add, exceedingly impulsive and imprudent also, are liable through some indiscretion, to attacks of this kind, and more especially about the period of quickening. So, also, are those who have been martyrs to dysmenorrhœa. The pain is referred to the uterine region and remains there. It may be intermittent, but it is not erratic like the muscular variety. It is prone to assume some of the characters of labor pains, and if long continued or extreme in degree, may really precipitate a miscarriage.

Uterine colic.

If we except their peritoneal envelope, the ovaries are singularly exempt from disease during pregnancy. From the date of conception their function is physiologically suspended and the condition which threatens their healthy action while menstruation continues is withdrawn. From various causes, however, their investing membrane may become inflamed, in which case the symptoms need not be confounded in your minds. The pain which is referred to the ovarian region, is sharp, and sometimes intense, or pressing, throbbing, burning, and paroxysmal. It may radiate over the abdomen, or extend into the back, or down the limb of the affected side. This limb is generally flexed, or if the patient tries to walk, she is lame with it. In exceptional cases pregnant women are, however, liable to a form of ovarian neuralgia.

Exemption from ovarian disease.

The gastro-intestinal disorders incident to pregnancy are more annoying and frequent before the fourth and after the seventh month than between these two periods. Whenever they occur, however, they are accompanied by such marked digestive derangement that you will have little trouble in their differential diagnosis.

Gastro-intestinal disorders incident to pregnancy.

Prognosis. — I recommend you in no instance to regard a case of this kind as trivial. For there is not one of them which is altogether exempt from the liability to abortion and its fearful consequences. Throughout its whole course, the state of pregnancy is beset with contingencies which it is your duty to avert. And not the least serious among them are such as may develop from symptoms like those of which our patient complains

Treatment.—This is one of those cases which we often encounter in private practice, and which are distinguished by this peculiarity—*they are better managed by simple domestic expedients than by the most scientific prescriptions.* Yet, as I have said, we must discriminate. For example:

If the pains are muscular, the part may be bathed quite frequently with hamamelis. Perhaps as large a proportion as one-half of all the pregnant women who complain of these symptoms may be relieved by this means alone. It is equally appropriate in ovarian irritation and inflammation. In some cases the rhus toxicodendron answers a good purpose. I generally direct a tablespoonful of the strong tincture to be put into a teacupful of tepid or cool water, and then applied through one or more layers of flannel.

If the suffering has been caused by mechanical means, or is the result of injury, the tincture of arnica may be applied in the same manner.

If it is caused by undue pressure against the attenuated walls of the abdomen, you may counteract this effect by enveloping the abdomen in several layers of an elastic bandage of rubber-cloth in such a manner as to support its parietes. A bandage of linen would be too unyielding, and might indirectly induce abortion.

Toward the latter end of pregnancy the feeling of extreme distention and discomfort in the abdomen, will often yield to the old and simple expedient of anointing it with sweet oil. I have seen the most threatening symptoms of premature labor relieved in this manner. If the pains are cramp-like, the camphorated oil is an excellent application.

If the suffering is neuralgic, you will charm it away by directing that the affected part be covered with simple, dry, uncarded cotton, or cotton batting. In some cases, several layers of flannel will answer equally well. Belladonna, or atropine, internally, may hasten the cure.

In the ovarian neuralgia which sometimes complicates the symptoms, and greatly increases the suffering in these cases, I know of no remedy to compare with the valerianate of zinc. I shall have more to say in future of this contingent of pregnancy.

It is very important always to regulate the exercise of the patient, and as far as possible to prevent too much of mental fric-

tion and anxiety on her part; for, although anatomists have failed to demonstrate a nervous connection between the mother and the fœtus in utero, her mental emotions do influence it greatly. It is a bad habit for those who are pregnant to take care of, and to lift and carry around, other children in the family. Although tight-lacing is popularly believed to contribute to an easy and safe labor, it is often prejudicial to the comfort and welfare of the pregnant woman, by inducing abdominal pains and cramps which may result in abortion.

Internally, a variety of remedies may be indicated. Where, as in this case, the suffering is aggravated by motion, however slight, bryonia will sometimes afford almost instant relief. Nux vomica, pulsatilla, belladonna, rhus tox., ignatia and chamomilla, are also useful under appropriate indications. The patient will take bryonia 3d, three times daily, and report at the end of a fortnight, or of three weeks at the farthest.

THE NAUSEA AND VOMITING OF PREGNANCY.

The sickness and vomiting of pregnancy are sometimes very difficult to explain, and still more difficult to cure. They usually expire by limitation at or before the fourth month, but may begin or end at any time before delivery. The difficulty that has been experienced in curing it, is shown in the long list of remedies that have been recommended for it. The list of specifics for morning sickness includes about one half the remedies in the materia medica.

May occur at an early, or late period.

In rare cases this is a fatal affection. Sometimes it terminates in abortion; in others the death of the fœtus puts a stop to it, even although its delivery may be delayed for some days or weeks. The most persistent and uncontrolable vomiting of food may threaten to destroy life through inanition, and yet the patient may continue in good flesh. For, so long as this disorder is not linked with a serious organic lesion of some portion of the digestive apparatus, the prognosis is favorable.

Is sometimes fatal.

If uncomplicated is not dangerous.

You may remember that the worst cases are those which are associated with chronic and intractable disease of the liver. I

never like to see a patient who is suffering from excessive gastric disturbance during pregnancy, begin to show signs of jaundice, especially if she has never had it before, or if there are coincident symptoms of acute yellow atrophy of the liver, or of uræmia.

Significance of a coincident jaundice.

There are some cases of morning sickness which manifestly depend, as Rene Brian and Graily Hewitt have shown, upon a flexion of the uterus. In these cases the gastric disturbance is neither very severe nor long continued, and yet they do sometimes result in abortion. Their diagnostic sign, apart from a local examination, is that the sickness is limited to the time of rising from the bed, a condition which is explained by the effect of gravity in bending the uterus upon itself. There are cases, however, in which the flexure of the gravid uterus does not excite emesis.

May depend upon uterine deviations.

In accounting for this vexatious infirmity the displacement theory is the oldest. It has also been ascribed to ulceration, inflammation, and stricture of the cervix uteri, to the stretching of the uterine muscular fibres during their development, to chlorosis, to albuminuria uræmia, and to sympathetic irritation of the pneumogastric. After the seventh month it may be due to mechanical pressure of the gravid uterus upon the stomach or the liver.

Various causes assigned.

The matters vomited will vary with circumstances. If the attack recurs when the stomach is empty, the egesta will consist of a viscid or slimy fluid; if there is a great deal of retching, it may be bilious, or even bloody: if the patient has eaten heartily, the food and drinks may be rejected.

The matters vomited.

Treatment.—There is no real specific for this disorder; nor can we find in the character of the retching, the nausea, the matters rejected, the occurrence and frequency of the paroxysm, the degree or quality of suffering, or the disgust of food, such indications for our remedies as will always help us to prescribe both accurately and successfully. Even where certain remedies have been extolled, there is often a doubt concerning their efficacy, because something else has been given, or done, simultaneously for the relief of the suffering. Here is a case in point, which

Lack of a specific for.

Questionable results.

I will quote from the *N. E. Medical Gazette*, vol. 4, page 153, to which it was contributed by my friend Dr. W. H. Holcombe, of New Orleans:

Case.—I was called, two weeks ago, to a very distressing case of this kind; and the treatment, whether strictly homœopathic or not, was so promptly efficacious that it is worth recording.

The lady was pregnant last year, and suffered horribly for seven weeks under allopathic treatment. She was only relieved by an abortion. This time she had suffered for three weeks before I was called in. She vomited about every half hour in the twenty-four, and no nourishment had been retained for more than five minutes, for a week or ten days. She was much emaciated, and greatly prostrated from want of nourishment and sleep. She was cold, trembling, and wretchedly nervous and despairing.

I ordered nux 30, and platina 30, alternately, every hour, and injections of beef-tea and brandy every six hours.

I found her a little better the next day, but not enough so to satisfy me that I was on the right remedies. So I examined my case more thoroughly.

I found two peculiar symptoms, which I regarded as key-notes. She was always greatly worse on waking from her little naps of sleep. Indeed, she declared she had rather not sleep at all than to awake with such dreadful sensations. Secondly, she referred her nausea entirely to a strange trembling, like a mass of jelly, which reached from the umbilicus to the ribs, and over the gastric and hepatic areas. I felt this tremulous motion with my hand for a long time. It was a quick sub-cutaneous quivering, almost without intermission. These symptoms belong especially to lachesis.

I ordered lachesis 2000, every hour. When I went next day, I found my patient in ecstacies. She had slept half the night, had vomited only a few times, and the trembling sensations had almost disappeared. What a brilliant laurel this would be for lachesis, if lachesis alone had been used! But, alas! my spirit of empiricism had dictated an adjuvant in the shape of an injection at night, of twenty grains of the bromide of potassium, and I could not tell positively which effected the cure.

Afraid to drop either, and consulting the good of my patient in preference to my own pure homœopathicity, I continued the prescription—lachesis 2000,—during the day, and a nightly injection of twenty grains of bromide of potassium. In a few days my patient was up and at the table, enjoying the pleasures of life, to the astonishment of her friends and to the glory of Homœopathy.

I believe the lachesis was the curative agent,—firstly, because I

believe lachesis in the higher and highest dilutions to be a remedy of astonishing value; secondly, because it covered my case homœopathically; thirdly, because, although the bromide of potassium is a good remedy for great nervous excitation, I have tried it several times before in the vomiting of pregnancy, and never with any decided result.

Nux 30, and lachesis 30, have done more for me than any other remedies in the vomiting of pregnancy, ipecac 200, and platina 30, stand next in my confidence. Plumbum, opium, and tarantula, all high, will repay careful study in difficult cases.

Nourishment by enemas of beef-tea, cream, milk-punch, etc., should be early and steadily employed.

The following indications for some of our well-known remedies have a clinical confirmation:

Special indications for remedies.

For the vomiting of a viscid mucus, especially on rising, nux vomica and cocculus. For constant, or occasional vomiting, without regard to the position of the body, and for vomiting of whatever is swallowed, the egesta being mixed with bile or mucus, ipecacuanha.

If the mucus is milky and the patient has had, or is having, leucorrhœa, and yellow spots on the skin, sepia.

For the vomiting of fluids as soon as taken, with thirst, great uneasiness and restlessness, bitterness in the mouth after eating or drinking, with pallor of the countenance, and thirst for cold drinks, arsenicum.

For the vomiting of a greenish, frothy mucus, which is sometimes relieved, temporarily, by drinking cold water, especially if there is a copious flow of saliva, cuprum metallicum.

For the vomiting of bile with the food, a rancid heart-burn, and ptyalism, especially at night, mercurius.

A list of possible remedies.

Other remedies, the special indications for which you will look to the materia medica, are, apis mel., berberis, bismuth, conium, cimicifuga, calcarea carb., chamomilla, ferrum, ignatia, kali carb., kreosotum, natrum mur., petroleum, tartar emetic, veratrum alb., and zincum, podophyllum, and iris vers.

The number and variety of these remedies implies that the so-called morning sickness of pregnancy is a self-limited disorder, because when a disease inclines to get well of itself it may easily happen that whatever has been prescribed will sometime or other get the credit of having cured it.

Empirical remedies and domestic expedients.

There are a few medicines and expedients that have been used empirically with advantage, among which are the oxalate of cerium, apomorphia, pepsin, the sulphate of soda, the arsenite of copper, gossypium, the bromides of soda and potassa, good old wine, champagne, coffee, luke-warm gruel, and very weak green tea.

Other resources.

If the uterus is displaced its careful reposition will be necessary. I shall speak of this directly. Exceptionally, if the os uteri is badly ulcerated, it may be necessary to treat it locally with a bland, unirritating application such as calendula, hamamelis, or hydrastis and glycerine. I have frequently arrested the gastric disturbance for days together by the topical use of the oleaginous collodion.

Stretching the cervix.

The newest expedient, with which a distinguished gynæcologist has proposed to do away with morning sickness altogether, consists in the dilatation of the cervical canal. The mode of performing this little operation is to carry the index finger gently through the external os, with a rotating movement, until one-half of the first phalanx has been introduced. In the case of multiparæ this is easily done; but with primiparæ it will sometimes be necessary to dilate the os by other means before the finger can be passed. The objection to it is that there is considerable risk of inducing abortion. This plan of treatment was discovered by Copman, in 1875, who, for the purpose of causing an abortion for the relief of vomiting in a case of pregnancy, dilated the cervix with his finger, and cured the vomiting without any other result.

The expediency of abortion.

The fact that, in *very rare cases*, when the life of the woman is seriously threatened, the induction of abortion or of premature labor is sometimes necessary for the relief of this and kindred disorders, makes it incumbent upon me to say a word or two upon this subject. There are but two indications which can render this extreme resort imperative, viz., (1) where it is morally certain that if the gastric disturbance continues the woman may die of starvation; and, (2) where there is such a coincident disease, more especially of the liver and kidneys, as makes it equally certain that she will die if the remote cause of the trouble is not removed.

Concerning the first of these indications, we are learning in

various ways that the human organism can withstand and survive an almost total lack of food for a considerable period. Perhaps there is no condition in which a woman can be placed, in which so small an amount of food will suffice, as during the first few weeks of pregnancy, when the nutritive needs of the embryo amount to little or nothing, and her appetite and taste are so thoroughly upset. Under these circumstances you must not be surprised nor discouraged if, for what may seem an incredible time, all food whatever shall be either refused or rejected. Such patients will not be likely to die of starvation, and therefore, you had better wait and work for a favorable change, rather than resort to an expedient which involves a moral wrong.

The danger from inanition.

A mere functional disorder of the liver, the kidneys, or any of the pelvic or abdominal viscera would not warrant the recourse to such a terrible expedient. In case of pressure, upon the liver by the gravid uterus after the seventh month, if the disease in that organ is of so serious and so threatening a nature as to imperil the life of the patient, and where the best treatment has failed to bring relief, it may become a question whether the induction of premature labor is not both right and proper. For, under these circumstances the expedient concerns the saving of the child's life, as well as the cure of the mother.

The danger from complicating lesions.

From hepatic disease.

Where, in the later months of gestation the urinary complication depends upon the same kind of pressure on the renal vessels and the ureters, you may need to balance this same question most carefully and conscientiously. The mere giving of remedies, or even the hypodermic injection of apocynum to stimulate a flow of urine, so strongly recommended by my friend Dr. Fahnestock at our Clinical Society, will not always answer.* But, before resorting to such an expedient as the induction of premature delivery, you must be certain that these conditions do really exist, and that the life of your patient is endangered by this particular cause.

From uræmia, etc.

Observe that the question is not whether you must hasten the delivery in all cases of uræmia with albuminuria occurring in

*Vide The *Clinique* for October, 1880.

pregnancy; but whether, when the means that are usually sufficient have all failed, we should try this as a last resort. This is the question that you must settle for yourselves in each individual case with the aid of the best counsel that you can procure.

In the same journal for November, 1880, you will find a report upon the treatment of nausea and vomiting in pregnancy that was read before our Society by my colleague Prof. Hawkes. This paper gives the details of several very interesting cases that were cured by mercurius, cocculus, arsenicum and lycopodium. The discussion that followed its presentation drew forth some interesting facts and points of a clinical kind, more especially with reference to the self-limited nature of this distressing affection, and the possibility of curing it, in exceptional cases, by the most irregular, and outlandish prescriptions. As a specimen of the latter Dr. Small cited the case of a woman who had suffered so severely from this disorder that she was compelled to take to her bed and to stay there during the whole of gestation. She had tried, during her successive pregnancies, both schools of practice, and had been under the care of Dr. Constantine Hering, but without relief. Finally, an old woman cured her promptly with a tumbler of hard cider, which contained a teaspoonful of salt and an old rusty nail.

VARICOSE VEINS.

In remarking upon a case of varicose veins of the legs in a pregnant woman, Prof. L. expressed great confidence in the value of hamamelis. He gives it internally in the third decimal dilution, and uses it locally in the form of one part of the mother tincture, or of Pond's Extract, to three parts of tepid water, which is to be applied by cloths or compresses that are wet with the lotion. Sometimes relief is afforded by bandaging the limbs from the feet to the hips with a surgeon's roller, but the same indications are filled, and more perfectly too, by the modern elastic stocking. It is a self-limited affection, usually ending with pregnancy; but, at term, it should always be regarded as a predisponent of puerperal phlebitis.

LECTURE XIX.

MORNING SICKNESS OF PREGNANCY, AND RETROVERSION.

Morning sickness of pregnancy and retroversion; Nausea and vomiting of pregnancy; Chorea during pregnancy.

The first case this morning is one that illustrates the distressing affection known as "morning sickness," for which the doctors have thus far failed to find a specific.

Case.—Mrs. G., aged 35, has reached the third month of her fifth pregnancy. Her first two children, a son and a daughter, were carried to term and are now living. She has aborted twice at about three and a half months, in consequence, as her physician told her of retroversion of the womb. The chief peculiarity of the case is that the nausea and vomiting which are incident to the early months of gestation are experienced by her at night only. It commences each evening at ten, and continues, with occasional interruptions, until after midnight, and sometimes until two o'clock in the morning. She enjoys her breakfast and dinner, but has no appetite for tea.

She is very confident that when she was pregnant with her two living children, the gastric symptoms came on as with most women, in the morning and not at night. And also that, in case of the two which she lost prematurely, the nausea and vomiting occurred, as in the present instance, during the evening and night. For this reason she dreads an impending abortion, and is fully persuaded in her own mind that it is quite impossible for her to go to "term." This conviction is almost confirmed by the dictum of her former physician, who declared positively that it would be out of the question for her to carry her offspring beyond the fourth month.

Upon careful digital examination, I found an evident deviation or displacement of the uterus. The os uteri was nearer the symphysis pubis than natural, and at the Douglas' cul-de-sac there was a hard, globular tumor, which yielded to steady pressure in the direction of the sacral promontory, and finally passed upwards out of reach. This little manipulation afforded her great relief. She insists that the replacement of the womb has always palliated

the gastric distress, and sometimes stopped it entirely for days together.

This is an exceptional case. It is seldom indeed that the reflex gastric symptoms in the early months of pregnancy are so pronounced. I have, accordingly, chosen it as the theme for a few practical remarks. The case is a typical one, which illustrates the intimate relationship through indirect nervous communication, between the uterus and the stomach. This peculiar sympathy is shown in various ways. I have known a patient to vomit within five or ten minutes after, and in consequence of the application of the nitrate of silver to the uterine cervix. A sudden dropping down of the womb in some cases of prolapsus produces the same effect. In many cases of tardy labor dependent upon rigidity of the os uteri, emesis removes the cause of the delay by relaxing the cervix. For it often happens that, when delivery has been delayed for some hours, the sudden relaxation of the os is announced by retching, and a desire to vomit. Ulceration of the cervix may indirectly occasion the most intractable vomiting. Bennet and others are of opinion that the worst cases of "morning sickness" are referable to this cause. Uterine displacements are known to produce it, and it is more than possible that the slight prolapse of the womb, which is incident to the first months of gestation may help to account for this very distressing symptom.

Reflex gastric symptoms in early pregnancy.

In the example before you, the retroversion, which is temporarily induced by more or less of exercise upon her feet during the day, and which is relieved when the patient rests at night, is evidently the chief cause of the retching and vomiting. When the fundus and body of the uterus topple over backwards, they not only press upon the anterior sacral or sciatic plexus of nerves, which is situated at the side of the rectum, but also upon the sacral ganglia of the great sympathetic. The hypogastric plexus is also implicated in the displacement. The ease with which the organ can be replaced, and the manifest relief afforded, are not only useful in the matter of diagnosis, but suggestive as to the postural treatment proper for our patient. For, the mere prescription of a remedy, or remedies, to be given internally for the relief of the gastric symptoms, is but a fractional part of the physician's duty

Retroversion a possible cause of morning sickness.

in a case of this kind. It will often happen, that by placing such a patient in a proper posture, and regulating her diet, as well as the time of eating her meals, and the amount and quality of exercise taken, we can accomplish more than by the most appropriate constitutional means. The cause of the suffering is purely local, and the treatment should be partly, if not exclusively, local also.

Abortion a contingent of retroversion of the gravid uterus.

In less than a month, if the excessive vomiting and the displacement do not cause abortion, this woman's womb will pass out of the pelvic basin into the abdominal cavity, in order that it may undergo the proper development. If we can succeed in averting the contingency of miscarriage, (which is, perhaps, doubtful,) she may go on well to term. For when the womb has escaped from the lower pelvis, its liability to dislocation will be removed, and the proneness to gastric derangement cease. Provided the retroversion is not inveterate, the gastric disorder will be self-limited.

If not excessive, morning sickness is salutary. Apt to return at night in retroversion.

The idea has long been entertained and advocated by obstetrical writers that, unless a pregnant woman has "morning sickness" at some period of gestation, she will be apt to miscarry, or perhaps to have a difficult and dangerous labor at its close. Although there are frequent exceptions to this rule, many persons passing through pregnancy from first to last without any particular derangement of the stomach, and finally doing well, it nevertheless remains true, that its presence is a more favorable sign, if it be not extreme in degree or misplaced in the period of its recurrence, than its absence. From careful observation in this respect, I am led to conclude that the habitual return of this symptom at evening, or as sometimes happens, in the middle of the night, renders it a more serious and obstinate affair than when it comes in the early part of the day, whether before or after breakfast.

A prognosis of inevitable abortion unwarranted.

While it is no part of my duty or desire to reflect unkindly upon my professional brethren, I must be emphatic in warning you against perpetrating the folly and wrong which this patient's former physician committed when he declared it impossible for her ever to carry another child past the fourth month. His opinion was not properly deduced from the facts of the case, and is, therefore,

fallacious. Because this poor woman had retroversion in the early stage of two successive pregnancies, and afterwards aborted, it by no means follows that a third or a fourth attempt to complete the process of gestation can not prove successful. If such a verdict were as harmless as it were unjustifiable, we would pass it by without further notice. But you are witnesses to the fact that it weighs down this patient's spirits like an incubus, and discourages her in the outset. Such dicta are inexcusable and mischievous. There are few circumstances that will warrant you in telling a woman that she cannot possibly go through with pregnancy, and give birth to a living child. Daily experience proves that even the most learned and reliable practitioners are likely to be mistaken when they pass such a sentence upon their patients. The range of physiological possibilities is a wide one, and since Nature will do as she pleases, it will be wise in us not to assume to limit her powers in this direction.

Treatment. — The first indication presented is to restore the womb to its natural position. This may usually be accomplished by a species of vaginal taxis, pressure being made with one or more of the fingers against the body of the displaced organ in the direction of the sacro-vertebral angle. In order to be most efficient and least harmful, this operation should be performed in a slow and cautious, not in a rapid and careless manner. The desired result will be facilitated by calling gravitation to our aid. For this purpose, in most cases, it may suffice for the patient to lie upon her side, or better still, upon her abdomen. We may, however, find it best to place her in the prone position upon the knees and breast, over one or more large pillows, as recommended in the treatment of prolapse of the funis, and for the correction of presentation of the face, side and shoulder. It may also be necessary to introduce the finger, or some other instrument, into the rectum in such a manner as to aid in replacing the uterus. Gariel's air-bag may be passed into the bowel behind the displaced organ, and afterwards so inflated as to lift the fundus, and compel the womb to correspond as it should with the axis of the superior strait. Or you may employ this little instrument, devised by my friend, Prof. Guernsey,* which is admirably fitted to fill the same indication.

How to replace the womb.

* Vide Guernsey's Obstetrics, etc., 1867; page 16.

In using this instrument, Dr. G. recommends that after the bladder and rectum have been emptied, "the patient should be placed on the bed, near its edge, upon her knees and elbows, so that the force of gravity may assist in the reduction. The ball of

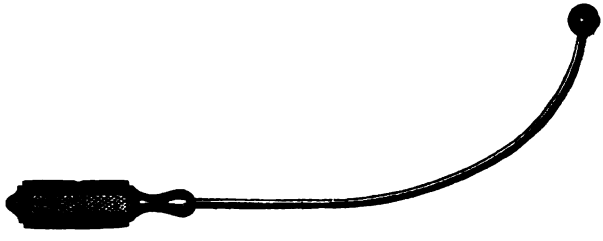


FIG. 29. Dr. Guernsey's Uterine Repositor.

the instrument, well lubricated, is to be brought to the anus, with the convex surface of the rod upwards, then gently pressed until within the sphincter, when the handle should be slightly elevated, so as to bring the ball against the anterior wall of the rectum. The instrument is now to be firmly and carefully pressed up the rectum, when the ball will elevate the fundus,—care being taken to raise the handle more and more as progress up the rectum is made; and presently the uterus will regain its normal position immediately posterior to the symphysis pubis.

In all cases of uterine displacement incident to pregnancy, and whether for purposes of exploration or of treatment, you should carefully abstain from the introduction of any instrument whatever through the canal of the cervix into the uterine cavity. Such an operation would be almost certain, sooner or later, to be followed by abortion. And I flatter myself that no member of this medical class would willingly commit the crime of murder, even for the sake of curing a case of prolapsus, or of retroversion of the womb! I have known a physician, however, who, through cupidity and ignorance, found it convenient to diagnosticate many examples of the latter displacement in pregnant females, and afterwards to reduce the dislocation by means of the uterine sound—a most cruel and unwarrantable expedient.

The uterine sound as a means of reducing the dislocation.

But simply to replace the organ in such a case as the one before us is not always sufficient. Unless we provide against a recurrence of the displacement, more

Postural treatment.

especially when the patient assumes an upright position, the increased size and weight of the womb will bring it down again. To obviate such a result, and thus indirectly to control the gastric symptoms, she should remain in the horizontal position upon the bed or sofa, and should lie either upon the side or upon the abdomen. If she can keep off her feet altogether until such time as the uterus has ascended into the abdomen, the vomiting will be greatly relieved, and perhaps cured, and, what is still more important, the chief danger of abortion will also be averted.

It is only now and then that a pessary is of real utility in the uterine deviations contingent upon pregnancy. The watch-spring pessary, covered with rubber, will sometimes answer a good purpose temporarily, and is less objectionable than most others. Either of the stem pessaries would be more likely to cause than to prevent a miscarriage, and moreover they are not suited to cases of retroversion.

The pessary.

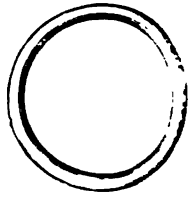


Fig. 30. Watch-spring Pessary.

In two similar instances I have succeeded in keeping the womb *in situ* by the introduction of a small sized air-pessary, to be then inflated, in the posterior and superior portion of the vagina, in such a manner as to prevent the body and fundus of the organ from falling towards the coccyx. When distended with air, this rubber bag becomes a species of cushion against which the uterus may rest without injury, and indeed it can do no possible harm to the soft parts. Nor is it half so liable as instruments that are made of more solid materials, to stimulate reflex uterine contractions, and thereby to excite an abortion. Some practitioners prefer Hodge's lever, or Cutter's pessary in this as in other cases of retroversion. If judiciously used, it very rarely happens that the means which I have indicated will not serve to replace the womb and to keep it in position. A few cases are recorded in which the displacement has persisted until the end of gestation. Where the retroversion is inveterate, and in case of an emergency, it has been thought expedient sometimes to promote the evacuation of the uterine contents by rupturing the amniotic sac

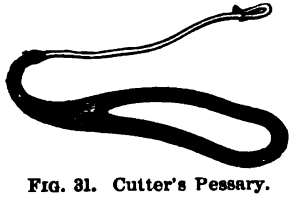


Fig. 31. Cutter's Pessary.

Retroversion may persist until term.

through the uterine cervix, or by the operation of *paracentesis uteri*, as first recommended by the celebrated Dr. Wm. Hunter.

In a report upon the retroversion of the gravid uterus, read before the Obstetrical Society of London, by Dr. W. Tyler Smith*, you will find the following instructive case:

"I was consulted in August 1859, by a lady, a patient of Dr. Duigan, of Gainsborough. She was the mother of two children, and, in the previous May, had a miscarriage, which left her in a very weak state. She had lost blood largely, and had since been irregular at the periods. Her chief complaint was of a distressing pain at the bottom of the back, and the least attempt at walking or exertion produced faintness. On making a digital examination, the uterus was found to be retroverted, the fundus hanging upon the lower part of the rectum, and so enlarged as to make me believe that pregnancy existed. She remained in town about a month; and the increase in the size of the uterus in this time converted the belief into certainty. There is no other condition in which the increase of the gravid uterus in the early months can be so readily estimated as in retroversion. The globular fundus is so perfectly within reach of the finger, as to render it possible to measure its increase with a precision which cannot be obtained when the uterus is in its natural position. In this case, the fundus could be lifted from the rectum, so as to afford temporary relief, but it would soon return to the position of retroversion. Acting on this hint, I introduced an air-pessary of considerable size which gave great relief, and enabled her to move about to an extent which had been previously impossible. With the air-pessary the uterus remained in a state of semi-retroversion. She continued to wear the instrument, with great comfort, for upwards of two months, and only left it off when quickening and the movements of the child made it certain that the uterus had risen out of the pelvis. She was delivered in April last of a living child, and carefully rested after her confinement, lying as much as possible, in the prone position. In this case, the pelvis was a large size, and it is the only instance I have seen of persistent retroversion in the gravid state, in which there was no vesical symptom whatever. I have seen this patient twice since her delivery. The first time there was no sign of retroversion, but the second it had re-

*Trans. of the Obstetrical Society of London; Vol. II., page 297.

turned to some extent, and I advised the use of the air-pessary again."

CHOREA DURING PREGNANCY.

Case.—Mrs. S., primipara, is twenty-five years old. Her menses appeared at thirteen and a half years; but, without realizing what might follow in consequence, she took a cold bath at the time and afterwards suffered from spasmodic dysmenorrhœa. At the age of sixteen she had an ulcer on the left leg, over the tibia, which began as a blister and spread extensively, finally involving the knee. The ulcer was healed, after two months treatment, by topical applications. The cicatrix has since been the seat of tingling sensations, which were aggravated by cold.

For three years past this patient has not menstruated more than six or eight times in twelve months. The flow has always been painful. She is now eight months advanced in pregnancy. At the first month she began to have choreic twitchings in the left hand and arm; afterwards the corresponding foot and leg became affected in the same way. Then there was a tingling in the left side of the face and head, and at the second month the muscles of the same side of the face began these grotesque movements.

At the fifth month the choreic twitchings changed sides, the face excepted, in consequence of her being put into a cold wet-sheet pack. Since that time the voluntary muscles of the right leg and arm, and of the left side of the face have also been affected.

With the dysmenorrhœa the left breast used to become swollen and very tender, but the right one always escaped. From the date of conception, however, the left breast has not been painful.

Although she inherits a predisposition to rheumatism, she says she has been very careless in not protecting herself from changes of the weather. She has often worn damp clothing, and gone for many hours with wet feet. Of late she has been very nervous and sleepless, talks at night and suffers from the most frightful dreams; but the spasms are suspended during sleep. The appetite is good, but, since the chorea set in, the bowels have been inveterately constipated. At evening the ankles are puffed, but in the morning they are not so. She has at times severe pains in the back and in the left side, and the spinous process of the fourth dorsal vertebra is tender to pressure. She never had the chorea while a child, nor does she know of a case in her family history.

Technically speaking, this is an example of chorea gravidarum. Waiving the discussion of certain physiological questions connected with the subject of chorea, we shall find that its clinical history is full of interest. You may have supposed that chorea was exclusively a disease of childhood, which, in the case of girls espe-

cially, terminated at puberty. But here it complicates pregnancy in a woman who is twenty-five years old. In most cases of this kind, and they are not very common, you will discover that the patient has had the chorea when a child. Very likely the former attack ceased with the regular establishment of the menstrual function, for, as a rule, with young girls, it is a self-limited affair. But this woman insists that she never had anything like it before.

Etiology.—Not unfrequently chorea is hereditary. I have seen it in three generations of children in the same family. Some times, by a species of atavism, it skips one generation and appears in the next following. And, even where the disease does not become fully developed, there is often a latent predisposition to it, in which certain exciting causes may precipitate an attack.

Nature.—Such a predisposition is sometimes secondary upon other diseases, more especially upon rheumatism and hysteria.

Rheumatism in.

As long ago as the year 1821, Dr. Copland, author of the Dictionary of Practical Medicine, drew attention to the fact that chorea may be, and frequently is, a sequel of rheumatism. In the case of children, I am confident that there are numerous exceptions to this rule, which at one time was thought to be almost universal. But with women during gestation, a large proportion of those who have had chorea have also had sub-acute rheumatism. In the case before you the nervous symptoms, which have been charged to an "insanity of the muscles," and which are so pronounced while I am speaking, are engrafted upon the rheumatic diathesis.

This form of chorea may spring from anæmia, or from chlorosis. There is no doubt that the impoverished condition of our patient's blood, and the consequent lack of nutrition of the nerve centres, has helped to produce this unfortunate result. For the growth of the fœtus in utero drains the blood of its best constituents, and predisposes the mother to nervous affections of various kinds.

Anæmia.

This case is in evidence that dysmenorrhœa may develop a bias toward spasmodic affections, which shall outlive its own existence. The local spasm of the uterine neck, which caused the pain at the month, and sometimes stopped the periods altogether, worried the nervous system into this peculiar condition, which is closely akin to convulsibility. Hence an acquired susceptibility to such exciting causes as may bring on the attack.

These exciting causes cannot always be ascertained. Fright is the most common of them all. Woodman cites a case in which a pregnant woman was seized with chorea from thinking that her husband was killed; and Romberg and Helfft each a case in which it was caused by the shock of falling into the water. This kind of psychical shock has the same effect upon adult women who are inclined to chorea that it has upon children. I have seen a case in which chorea was induced in a young woman, who was only one month advanced in pregnancy, by a terrible scolding which her mother gave her. Women are sometimes worried into this state by the dread of having it known that they are pregnant.

From shock.

The presence of the fœtus in utero is an incident exciting cause of a peculiar kind. In certain very sensitive women an ovum of a fort-night or three week's development may be sufficient to excite such reflex spasms of the voluntary muscles, as you see in our patient. The growing germ is a more or less constantly acting cause. If chorea begins, as it did in this woman's case, quite early in the period of gestation, it will most probably continue until its close; for while the cause remains, the effect must continue, and it will not cease until the gravid uterus has been emptied of its contents. All the reflex phenomena, connected with pregnancy, if they are serious, are subject to this rule. Sometimes, although rarely, chorea is also a post-puerperal affection.

As with children, it may follow the repercussion of the measles, or of various eruptions; and it is not improbable that this accident may have been a factor in the case before us.

Chorea is more common with primiparæ than with those who have had children before. One attack does not, however, give exemption from another. There are those who have chorea in a modified form for two or more successive pregnancies; and *per contra*, as with puerperal convulsions, most women who have it at all, have it but once. In this matter very much depends upon the external circumstances, as well as upon the morbid tendencies to which the patient may have been subjected.

In primiparæ.

Symptoms.—The symptoms are identical with those belonging to the same disease in children. The irregular contractions and twitchings of the voluntary muscles, which defy the will of the

patient, are quite distinctive. These movements are almost always unilateral, or hemichoreic, and the left side is more frequently affected than the right. Sometimes, however, either for an unknown reason, or in consequence of something that has been done for her relief, as with the wet-pack in this case, the lesion is shifted to the opposite side. Or the spasm may affect first one side and then the other, alternately. The more pronounced the rheumatic bias, the more likely is the disease to travel from one set of muscles to another, and finally to become general.

In exceptional cases the spasms may be limited to one or both the legs, to the muscles of the abdomen, to those of the face and neck, or of the hands and fingers, the larynx, and the diaphragm; and still more rarely to the heart, giving rise to what has been denominated "cardiac chorea." Whatever their location, and however severe they may be, these spasms are suspended during sleep.

Localized chorea.

There is a phase of morbid action which, in some of these cases of chorea gravidarum, is both curious and suggestive. At the outset of the attack the brain is not always implicated, but after a little the cerebral symptoms show themselves and keep on increasing in a compound ratio until the case ends, either with abortion or with labor at term. This gradual and progressive impairment of the mental faculties is more marked in the case of women than in children who have the chorea. They become irritable, peevish, capricious and unhappy; they lose their memory, grow melancholy, threaten suicide, and are full of gloomy forebodings. Not unfrequently they are subject to attacks of delirium, and may even become maniacal.

Dr. Barnes (Transactions of the Obstetrical Society of London, vol. x., p. 180,) is assured of the probability that the chorea causes the mental disorders. "This it does by the repeated shocks that at first stun the nervous centres; these shocks are equivalent to concussions, they exhaust and divert the nervous force, and after a time impair the nutrition of the nervous substance. This hypothesis is perfectly consistent with the clinical facts, that the cerebral disorders are progressive in proportion to the duration and severity of the chorea, and if not too far advanced, undergo amelioration with the decline or cessation of the chorea."

Although, in its nature, chorea is essentially a convulsive affec-

tion, you should remember that it holds no clinical relation to puerperal eclampsia, epilepsy, catalepsy, or coma. If this patient reaches term without accident, she will not be more likely than other women to have convulsions, either before or after her delivery. She may reach the very acme of hysterical excitement and apprehension, but it would be quite exceptional for her to have genuine convulsions.

Prognosis.—Cases of this kind usually get well, but not speedily, nor as the direct consequence of medical treatment. In its slighter forms the chorea may be relieved and possibly cured before the termination of pregnancy. Such a result is the more likely to follow if the attack was caused by a slight shock, which has not been repeated; if it is idiopathic and not secondary upon another disease, neither upon a depraved condition of the blood, nor an enfeebled state of the general system; if the uterus is not too irritable, or intolerant of its contents; and if the patient has never had the chorea before.

The rheumatic complications are more lasting and dangerous. In some of the worst cases there are cardiac lesions, which, although they may have been latent before, have been lashed by the choreic convulsions of the heart, into a really serious condition. A mere irritability and irregularity of the heart's action, palpitation and præcordial oppression, should not discourage you; but if you recognize the systolic bruit at the apex of the heart, and above all, the physical signs of valvular endocarditis, in a rheumatic subject with chorea, the prognosis should be guarded.

The anæmic murmur, which is heard along the course of the carotid and other great vessels, is not so serious a symptom. Nor in general, are the signs of hypertrophy of the heart (which is more frequent in pregnant women than is generally supposed,) necessarily grave in their character.

The cerebral symptoms do not afford a reliable criterion of the gravity of the disease. They are the epiphenomena which are more alarming than serious. It is only when they depend upon an organic disease of the brain, or in very rare instances, upon cerebral embolism, that they are of fatal significance. As a rule they disappear after delivery.

Occasionally the muscular symptoms are so severe, and the general illness is so marked, that a crisis is extemporized by the spon-

taneous coming on of labor. Nature takes this measure to get rid of the exciting cause of the trouble, and to put an end to the symptoms. The choreic contractions may seize upon the womb in such a way, and so forcibly, as finally to bring on the proper expulsive effort. Hence a liability in these cases to abortion and to premature delivery. But, if the woman reaches the period of gestation without having had such a mishap, the chorea is finished as abruptly and as completely by the birth of the child as intermittent fever ever was by *natrum muriaticum*. This is a rule to which there are few exceptions.

The fatal form.

This form of chorea is sometimes fatal. Dr. Barnes has compiled the history of fifty-six cases of chorea gravidarum, of which seven died. The post-mortem lesions were not constant, or in any sense characteristic. Perhaps the most frequent of them was the existence of incidental, polypoid vegetations, or fibrin-beads, which had gathered upon the mitral valve of the heart. It is possible that some of these little growths may have been detached and carried with the blood into the smaller vessels, finally causing death by embolism.

Treatment.—The first thing to do is to put the patient, as much as possible, beyond the reach of all those influences which tend to perturb and to derange the nervous system. For, she is, of necessity, very impressible to the little things which are of no account in themselves, and of which a well person would take no notice. Her surroundings ought to suggest a calm and quiet demeanor, and everything in her daily life should be as grateful and pleasant as possible. Her diet, society, occupation, sleep and exercise, should all be tuned to this key. If it is otherwise, you need not wonder if the most fitly chosen remedies shall fail to effect. These remarks apply especially to those who have had the disease before.

My own experience leads me also to place great reliance upon the kind and quality of the food that is chosen. In the majority of cases there is an evident lack of nutrition. These patients need to be fed and fortified against a debility, of which the nervous spasms, like a neuralgia, are the obvious sign. These convulsive movements often increase as pregnancy advances, because the blood becomes more and more deficient in its nourishing properties. If the drain is not stopped, or rather, if its effects are not counteracted by a proper alimentation, the disease will grow worse instead

of better. A mixed diet should be allowed. Let it consist of milk, eggs, game, oysters, and other sea-food, good, wholesome bread and butter, and such other healthful articles as may be available, and as will suit the taste. The malt liquors are sometimes very useful in this connection; but it is best to interdict the use of tea and coffee. For the latter we may substitute chocolate, or the alkathrepta. This part of the treatment is so important, that it should not be overlooked, even in the mildest cases.

There are nervous conditions which simulate chorea, that yield readily to such remedies as belladonna, ignatia, coffea, nux vomica, agaricus, and cuprum, under appropriate indications. These states are temporary, and often depend upon avoidable causes. They are easily cured.

But confirmed cases require more skillful management. The spasms are likely to be inveterate. If they are caused by fright, ignatia, opium, calcarea carbonica, or cuprum may be called for. It is said that cuprum aceticum has cured this disease when it was occasioned by seeing another person in the fit.

If the chorea is traceable to *suppressed eruptions*, this fact presents a strong indication for cuprum aceticum, calcarea carbonica causticum, or sulphur.

If the original exciting cause is in the uterus, the remedies which act upon that organ in such a manner as to control its local spasms and its reflex sympathies, will surely be required. Among these are belladonna, pulsatilla, sepia, sabina, gelsemium, veratrum viride, and caulophyllin. You cannot go wrong in cases of this kind if you give either of these remedies under precisely the same indications for which you would prescribe them in threatened abortion. For if, by this means, you can avert the miscarriage, you will have found the proper medicine for the relief, if not for the cure, of the choreic symptoms.

Where the symptoms have their root in the rheumatic constitution, we must prescribe accordingly. Rhus toxicodendron, macrotin, or gelsemium, may either of them be required, to correct this peculiar bias. I have the greatest confidence in the gelsemium, more especially because with it I have been very successful in curing the chorea when it has followed or complicated rheumatism in children. Excepting in confirmed organic disease of the heart, it cures most of the incidental cardiac lesions that we find in

cholera, and controls the nervous and spasmodic symptoms like a charm. I prefer to give it in the second decimal dilution, taking care to watch its effects very closely.

How to interpret the mental symptoms is not any easy problem. What they signify and what they indicate, is something as difficult to decide as it is in a case of hysteria. Your best plan will be to place your reliance upon such of them only, as are not incidental and illusory. At the same time, you must be careful not to underate the importance of such as, at first sight, may seem to be trivial. Fortunately, the remedies which are most likely to be required for the cure of the choreic symptoms proper, will, in general, be equally applicable for the relief of the cerebral complications.

In a few instances recorded, these cerebral complications have however been of such an alarming nature as to justify a resort to the induction of premature labor. But, probably because this expedient has been too long deferred, these cases have very generally died. It is possible that, in consequence of deep-seated lesions of the cerebro-spinal centres, the evacuation of the gravid uterus might fail to arrest the disease.

Anæsthetics are admissible only as temporary palliatives. They are suited to the worst cases, and their use should be restricted to the later weeks of pregnancy. Sulphuric ether is safer and better than chloroform. Neither should be administered by the patient herself. A pleasant and effective compromise may sometimes be made with those who clamor for something of this kind by putting twenty drops of sulphuric ether in half a glass of water and letting them take a teaspoonful every five or ten minutes, until they are quiet. Bathing and dry rubbing, if agreeable to the patient, may also be of service. Electricity should be used, if at all, only with the greatest care, in the chorea of pregnant women.

This woman will take gelsemium 3, once in four hours. [This patient was delivered with the forceps, in the hospital, in the presence of several members of the class, on the eve of January 7th, 1875. Her labor was natural. The anæsthetic, ether, acted well, and she had no sign of a convulsion. The choreic spasms abated, and in a fortnight she was discharged, cured.]

LECTURE XX.

ABORTION WITH MISPLACED PAINS.

Abortion with misplaced pains; the "habit" of aborting; intermittent abortion; the sequelæ of abortion.

Case.— In consequence of over-exertion, Mrs, G., aged 30, aborted at the end of the third month. She had twice before miscarried at the same period of pregnancy. Immediately after violent exercise at house-cleaning, she began to flow slightly, and to experience an occasional sharp pain in the left hypogastrium. After a restless night she awoke at 6 A. M. with an acute, lancinating headache. This pain in the head was accompanied by an extreme soreness and tenderness in the nape of the neck. The pupils were dilated to nearly the whole extent of the iris. She complained of photophobia, with a shower of sparks before the eyes, and in a species of semi-delirium declared herself in the immediate neighborhood of a fearful conflagration. These later symptoms would disappear in the intervals between the paroxysms of headache. When the pain in the head returned, she would scream and shriek and beg to be held firmly, in order that no terrible accident might befall her. These paroxysms returned every ten minutes for about two hours, or until I came and relieved her with a few doses of belladonna 3d. Upon examination, the os uteri was found but slightly dilated. The pain subsided, and finally ceased.

The same train of symptoms came on the second morning at six o'clock. They were, however, less violent in degree and of shorter duration, lasting in all not more than an hour. The os uteri was a little more patulous. The passive flow continued, but there were no uterine pains whatever.

The third morning she had half a dozen of the same paroxysms of pain in the head. They were repeated once in five or six minutes, and were as severe as those of the first day. In the intervals she was found to be bleeding much more freely.

The stomach had become exceedingly irritable, and she vomited frequently, each effort at emesis serving so perceptibly to increase the hæmorrhage that the patient remarked it herself. The headache passed off, but during the day she had two pretty severe uterine pains of an expulsive character, and became really quite ill. Early next morning regular labor pains commenced and continued so that in an hour and a half all was over. The head and nervous symptoms vanished as soon as the proper uterine contrac-

tions began. The fifth morning the headache did not return. She made a good recovery.

Perhaps a majority of cases of accidental abortion are caused by undue or unusual muscular exertion. Lifting, scrubbing, over-reaching—as in hanging a picture, carrying a child a long distance hurriedly—as when in haste to reach home or to take the train, running the sewing machine for consecutive hours and days, horse-back riding, or climbing steep and difficult stairs, as for example, to the cupola of the city hall, have caused the uterus to expel its contents prematurely.

Abortion from over-exertion.

You will not, however, understand me to say that these causes are invariably followed by such unfortunate consequences. Far from it. In many, and probably most pregnant women, there is a remarkable tolerance of fatigue and even considerable muscular effort, if it be moderately and habitually practised. There are those in whom it would be impossible to bring on abortion by any such means. But in the majority of cases such a mishap is more easily induced. This is especially true of women of sedentary habits, who ordinarily take very little exercise, whether indoors or out, but who, under peculiar temptation or provocation, exceed the bounds of prudence, and overdo and injure themselves. In the matter of taking proper exercise, as in everything they do, these subjects are fitful and capricious. In them a sudden strain, or any unusual effort, conjoined with extraordinary nervous excitement and impulse may work mischief that might have been averted.

Remarkable tolerance of exercise.

Add to this, that if the woman has aborted once or twice already, and is, therefore, predisposed to this accident, these causes are more harmful, and we have the etiology of this class of cases plainly before us. The *habit* of aborting at a particular date of pregnancy also increases the danger from this variety of accidental causes; for there are women who miscarry at a certain time with almost as much regularity as they menstruate when they are well. And, although this result may happen at any period of gestation, it is extremely liable to occur at the end of the third month. This clinical fact is confirmed in the case just now detailed to you. Our patient had already miscarried twice at the twelfth week,

The "habit" of aborting.

and now, with the arrival of the same period, over-exertion in house-cleaning caused a slight uterine flow, and pains, which resulted in the loss of the embryo. You should not fail to observe that this indiscretion and excess on her part was more mischievous at this particular time than it might have been at any other.

Even a slight flow of blood from the gravid uterus, and especially if it be accompanied by pain in either hypogastrium, or about the loins, may betoken a miscarriage. Under these circumstances the symptoms of impending abortion do not differ, in any essential particular, from those which date the appearance of the menstrual discharge. We are naturally suspicious of them, however, and solicitous concerning their interpretation and results: for their continuance signifies an interruption in the process of intra-uterine development, and the possible sacrifice of the offspring.

But the chief peculiarity of this case was the periodical and regularly recurring headache. This was a good example of *intermittent* abortion.* The headache took the place of the uterine pains, came every morning for three successive days, continued for a given time, and then left. The paroxysms, which were distinctly pronounced, came and went with the regularity of labor pains. And they increased in frequency each day. Meanwhile, there was no expulsive uterine effort, or at least none of a painful or positive character. By and by the flow increased, and the stomach became implicated. Vomiting ensued. This was a certain sign that the os uteri had begun to dilate more freely and rapidly. The principle obstacle to delivery, and the indirect cause of the headache, also, were removed as soon as the cervix was sufficiently relaxed for the escape of the contained embryo. Proper uterine contractions succeeded. The real labor was short and decisive. The headache vanished, hæmorrhage ceased, and our patient made a good recovery.

Intermittent abortion.

Treatment.—There are several methods by which this case could have been brought to a successful termination. The question to decide was, which is the more safe and expedient. I might have given this woman a strong dose of ergot, and finished her labor abruptly, by forcing the uterus to expel its contents through

*Vide U. S. Medical and Surgical Journal, vol. iv., p. 75.

the slowly dilating os. Or, perhaps, a powerful cathartic would have produced a similar result. Or an emetic might have unlocked the cervix, with the mysterious key of reflex action. Or sitz-baths, or the colpeurynter, might have brought about the same end. Or an old-fashioned dose of morphine, or perhaps of quinine, might have arrested the headache, until such time as the gradual expansion of the lower segment of the womb should permit the proper pains to come on spontaneously, and terminate the delivery.

But the belladonna was a more appropriate, specific, and satisfactory remedy. Not only did it relieve the headache, which, as I have said, was indirectly due to the rigidity of the uterine neck, but it also relaxed the fibres of the unyielding cervix—which is slow to yield before the fourth month—and thus removed the cause of the suffering and the delay. It was appropriate for the pain in the head, because it was specifically adapted to remedy the condition of the cervix, upon which it depended, and of which it was the consequence. It harmonized the nervous sympathies existing between the body of the womb and its inflexible outlet. It charmed away the impending danger to the brain, and permitted nature to complete the delivery with the least possible risk to the health and welfare of the patient.

One of the best remedies that I have ever given in "intermittent abortion" is gelsemium. It seems adapted to the same general symptoms which call for belladonna, with the added complication of a paroxysmal recurrence of the symptoms that threaten to precipitate the extrusion of the ovum. The repetition of the paroxysm may have a regular type, like a fit of the ague, with a distinct interval, and may perhaps be accompanied by a discharge of mucus or of amniotic fluid.

Where it is desirable to centre the scattered, or wild pains, upon the womb, and to finish the delivery, because in any event it is inevitable, caulophyllin is the remedy.

THE SEQUELÆ OF ABORTION.

This patient was brought to the Clinic by my friend, Dr. W. W. Wilson, whose notes of the case I will read you.

Case.—Mrs. ——, aged 39, English the mother of two children, has always enjoyed good health until now. She has never been

troubled with female weaknesses of any kind, and never aborted before. She became pregnant during the latter part of April, and by the advice of an old midwife, took vaginal injections of warm water twice daily, for the purpose of promoting an easy labor at term! On the tenth of June (at the sixth week), she came by railway from Indianapolis to Chicago. The next morning after her arrival, not having any warm water convenient, she took an injection of cold water instead, and this was applied with a common rectal syringe. The shock was such that she fainted, and in a few minutes aborted, everything coming away with a gush.

A physician was called in, who arrested the flow entirely, and the next day she felt so well that she did the washing for the family. That night she was seized with cramps and great pains through her body and limbs. Another doctor came, who said that she had inflammation of the bowels, and treated her accordingly. Since that time she has had four other physicians in turn, one of whom treated her for neuralgia of the liver (!), another for dropsy, a third for enlargement of the womb, and the last for dyspepsia.

I was called Aug. 31, and found her in great pain and distress, respiration labored, pulse 125, feverish and talking incoherently. The pains were paroxysmal, like those of labor, but were confined to the left ovarian region. On examination, I found the uterus and vagina normal, except that there was a slight, whitish discharge from the os uteri. Ordered pulsatilla^{200} every two hours, and the local use of the extract of hamamelis.

Sept. 1. Much easier. The pains have almost entirely ceased. Bell.^{200}.

Sept. 2. Still improving, but restless and cannot sleep. Continue the belladonna, but in addition to take three doses of coffea^{30} between 4 and 10 p.m.

Sept. 3. Husband reports his wife better. Slept well all night. Continue the same remedies.

Sept. 5. Found my patient sitting up and relatively comfortable. Bryonia^{200} every three hours, and zincum valerianicum 3 dec. a powder at night.

Sept. 8. The menses came at 10 A. M. Says she is well, but very weak. China^{200} every three hours.

There is no single respect in which women differ more decidedly than in the readiness with which they abort. With some the slightest causes will induce a "mishap." A misstep, a rough ride in a carriage, climbing stairs, a long walk, a severe cold, coughing, sneezing, an attack of dysentery or diarrhœa, nausea, dysuria, a severe

Causes of abortion.

toothache, mental anxiety, or even jumping out of bed suddenly, have been known to cause it in those who were very susceptible. On the other hand, there are some women, who, no matter what they do, or suffer, are in no possible danger of miscarrying. They incur every risk without the least concern, or if so wickedly disposed, may try every means to induce an abortion, but without effecting it. The former are often disappointed in being unable to carry their offspring to term; but sometimes take advantage of their idiosyncrasy to put an end to intra-uterine development. The latter are often victims of their own or others' temerity in trying to interrupt the wonderful process of gestation, and thousands of them suffer the remote consequences of such conduct in the form of uterine diseases which are sometimes entailed upon them for life.

But nature has thrown certain safeguards around pregnant women which generally exempt them from harmful contingencies, and help them to pass through the ordeal of maternity with less of danger and risk than you would at first suppose. As pregnancy advances she develops a species of toleration to processes that are new and peculiar. She even counteracts and antidotes the mischievous interference of doctors of every grade, and nurses of all sorts, with her prerogatives. In this woman's case, the warm water injections happily did no harm. She could bear them with impunity. But the shock of the cold water, and especially when taken so soon after the journey, caused an almost instantaneous abortion. Perhaps she might have taken this injection at another time without any ill effect; but, the probabilities are that while the habitual use of the warm water developed a toleration for it, the cold application could not be borne at all without mischievous results.

Toleration of injuries during pregnancy.

I regret to say that there are physicians who do not regard an abortion at the early period of six weeks as an affair of the least consequence. They will tell you that prior to quickening the embryo is not alive, and that there is no particular necessity for ministering to its welfare or for shielding it from harm. But let me say, that the moment the ovum escapes from the Graäfian follicle, that moment it ceases to be a part of the maternal organ-

Sophistries of the Abortionist.

ism. This is as true in case of fecundation as it is in menstruation. Arrived in the uterine cavity, the egg is no more a part of the mother than is the egg of the bird when laid in its nest to await future development, or that of the snake when dropped into the grass before being fertilized. It represents a separate organization, which, although incapable of maintaining a separate existence, is as really independent as the infant at birth, or its father at forty.

Once the conditions for conception are supplied, and the vitalizing portion of the semen masculinum has impressed itself upon the ovum somewhere along the course of the generative intestine, the first step in the reproductive series has been taken. From this time forth, whatever imperils the integrity of that germ, implicates life; and whoever intentionally intercepts the wonderful changes incident thereto, *unless to save life*, is a veritable murderer—no more and no less!

The embryo is alive.

Whether prior or subsequent to the formation of the placenta, the dependence upon the mother for subsistence is substantially the same. No one familiar with the organization and function of the chorion can doubt this. The physical laws that regulate the supply and waste, the nutrition and detritus of germ-life, embryonic life, and fœtal life, are identical, and there is nothing in the mode of their operation which could lead us to infer that from the moment of fecundation, the whole process of intra-uterine development is not of the greatest importance.

It is no argument against the vitality of the smallest embryo, that direct vascular and nervous attachments between it and the endometrium have never been demonstrated. Blood-vessels have never been found in cartilages, ligaments, the epithelial tissues, and the epidermis. We may as well declare them inanimate for similar reasons. Moreover, the fact that direct means of communication between the mother's organism and the fecundated ovum, prior to the formation of the placenta, have not been discovered, is not to be received as proof of their non-existence. Reasoning by analogy, we know that the means of preserving life therein are not lacking.

The fertilized human ovum is not like the seed that has been wrapped in an old mummy, and left for centuries to await the conditions for its development. Its growth is steady and constant, progressive, physiological and positive. The qualities it has

derived from either parent are preserved. The predominant traits of temperament and predisposition, the idiosyncrasies and individualities that go to make up the separate being in subsequent life, are there *in esse*. The hereditary features, and physical bias, the mental capacity and character, which are latent and undiscoverable to us, are nevertheless epitomized in the developing germ. If, prior to quickening, the mass were inanimate or dead, this could not be true; nor would it be possible, when two or three months had elapsed, for the mother, however imaginative, to imprint such *paternal* characteristics as are frequently inherited upon her offspring. The very fact that these peculiarities are perpetuated is proof positive of constant development and physiological change.

Quickening not the first sign of life.

Quickening is not a reliable criterion of the vitality of the embryo, for the obvious reasons that it does not begin at a fixed and determinate period of pregnancy; that it is frequently lacking throughout gestation; that it may be confounded with abnormal sensations of various kinds; and that the force of the impulse felt by the mother may be very strong in case of a weakly infant, or *vice versa*. It is more than possible that fœtal movements may occur for some weeks before they are recognized by the mother. Auscultation of the abdomen discloses the existence of these movements before the pulsations of the fœtal heart, or even the placental souffle can be heard. Not long since, a mother told me that, after its birth, a fœtus of a little more than two months kicked quite violently; and at a very early period of gestation they have been known to breathe and cry when suddenly expelled the uterus.

Abortion as a cause of disease.

From my frequent allusion to abortion as an indirect cause of many of the diseases of women, you already have an idea of the importance of this subject. For the whole question of its prophylaxis, the right, and wrong, and responsibility of it, must be settled by medical men. Nothing could be more natural than for a sudden and forcible interruption of the textural changes and sympathetic relations, peculiar to pregnancy, to result in more or less of disease and disorder. The ovaries, the mammary glands, the uterine walls, vessels and lining membrane, and the nutritive

and nervous systems are especially apt to suffer; and, strange to say, with certain exceptions, the earlier the period of the abortion, the greater the liability to these unfortunate sequelæ.

Sequelæ of abortion.

The list of these contingent and consecutive ailments is a long one. It includes the different forms of ovarian inflammation, ovarian dropsy, every species of menstrual disorder, peri- and para-metrítis, metro-peritonitis, hæmatocele, the formation of moles, hydatids, fibroids, and uterine polypi, uterine displacements, uterine and vaginal fistulæ, subsequent abortion, atresia of the cervix uteri, sterility, hysteria, dyspepsia, neuralgia, leucorrhœa; malignant diseases, as cancer, at the climacteric, and mania.

Such an array of the possible consequences of abortion, whether accidental or induced, should lead you to make an especial effort to prevent it, whenever it is possible. I have placed upon the black-board a table of the causes of abortion, which you would do well to copy into your note-books, and study at your leisure:

I.—Constitutional or Predisposing.

1.—Plethora,
2.—Anæmia and Chlorosis,
3.—The Scrofulous Diathesis,
4.—The Menstrual Molimen,
5.—Zymotic Diseases:
- Syphilis,
- Mercurialization,
- Variola,
- Scarlatina,
- Diphtheria,
- Cholera.

II.—Local, or Organic.

1.—Malformation of the Ovum.
2.— " of the Membrane (moles, hydatids).
3.—Placental Abnormalities:
- Mal-location of, (placenta prævia.)
- Organic disease of,
- Detachment of,
- Fatty degeneration of,
- Calcareous ditto.

III.—Reflex, or Exciting.

1.—Centric:
- Emotional, as Fright, Anger, Grief, etc.,
- Direct blows upon the head or back,
- Cerebro-spinal meningitis,
- Cerebro-spinal effusion,
- Hysteria and Epilepsy.

2.—Excentric:
- Parotidean Irritation,
- Thoracic do.
- Mammary do.
- Dental do.
- Gastric do.
- Rectal do.
- Vesical and Renal Irritation,
- Vaginal Irritation,
- Falls, jumping, blows, etc.,
- Functional and Organic Disease of the Womb,
- Ditto of the Ovaries,
- Death of the Embryo,
- Shock from cold injections, cold bath, etc.,
- Genital irritation (coitus),
- Do. do. (instrumental).

IV.—Medicinal.

This class includes the various emmenagogues, or oxytoxics, which have been known to cause the uterus to empty itself of its contents, among which are tansy, (tanacetum vulgare), ergot, (secale cornutum), cotton plant (gossypium herb.), quinine, cantharis, electricity, and some others.

You could not have a better illustration of the importance of this subject than the history of this case affords. It is more than possible that, until my young friend here was called to the rescue, no one had an intelligent idea of this poor woman's condition. The first doctor who came to her, and who sealed up the flow so promptly, should have impressed upon her the absolute necessity for rest and quiet. He should have insisted upon her remaining in bed, with as much care, and for as long a time as if she had just passed through labor at term. If he had taken this precaution, and given her no medicine whatever, she would probably have recovered without any untoward symptoms.

But he did nothing of the kind, and the consequence was that she became very ill, and, worst of all, was subjected in turn to the tender mercies of several other incompetent doctors. One said that she had enteritis, another neuralgia of the liver (!), a third hypertrophy of the womb, and a fourth dyspepsia. Their diagnosis was wrong, and hence their treatment could not be right. She grew worse instead of better.

Ill effects of wrong diagnosis.

This brings us to the practical lesson that I wish to draw from the case before you. It concerns the difficulty of diagnosticating the diseases that may accompany or follow abortion. For I am confident that this patient's experience at the hands of her physicians is by no means an uncommon one. In truth it is very difficult, and sometimes quite impossible, to decide whether this or that class of symptoms of which women complain is or is not referable to abortion as a cause. The perplexity is increased by our liability to confound it with delayed or painful menstruation, menorrhagia, membranous dysmenorrhœa, and by the possibility that the patient, if so disposed, may deceive us, by leading us to believe that she has miscarried when she has not, or *vice versa*. Add to this that in many cases the diseases of the womb and of the ovaries which follow abortion run a latent course; or they may partake of just enough of the hysterical "mimicry" to counterfeit other diseases, as for example peritonitis, enteritis, cystitis, etc.

Difficulty of recognizing the sequelæ of abortion.

A recent writer* has published the following table upon the

*Dr. Van de Warker, in the Journal of the Gynæcological Society of Boston, vol. IV, pp. 297-8.

differential diagnosis between spontaneous and induced abortion :—

Accidental and Spontaneous Abortion, to the Third Month.	Instrumental Abortion, to the Third Month.
1. Ovular abortion may occur and simulate dysmenorrhœa. Later; a gradual climax of symptoms, thus: loss of appetite, depression of spirits, pain in the loins, weight at anus or vulva, pain in breasts, followed by hæmorrhage and expulsive pains in the uterus.	1. Marked constitutional disturbance from the first. Rigors, fainting or collapse, severe pain in the hypogastrium, often extending over the entire abdomen, and marked tenderness on pressure.
2. From accident; sharp pain in the back, loins, or abdomen; often an interval of a day or two, or more, and then pains renewed violently and bleeding.	2. Expulsive pains before the hæmorrhage Pain severe in the back, and in a line from the umbilicus to the sacrum, pain and hæmorrhage occurring together. Large clots.
3 Evidence of history; habitual abortion, previous ill-health, or plethoric state.	3. Evidence of history. Previous good health. Evidence of habitual abortion absent, or doubtful.
4. Often a history of uterine displacement.	4.
5 As a rule the pulse rarely reaches 100.	5. As a rule pulse from 100 to 120.
6. As a rule, there are no symptoms of inflammatory complications of the uterus or the abdominal viscera.	6. As a rule there are always symptoms of inflammatory complications, and tenderness on pressure over the uterus. Os and cervix enlarged and extremely tender to the touch.

Treatment.—In case of threatened abortion, it will become your duty, whenever possible, to prevent it. If, however, delivery is inevitable, you must conduct it to a safe termination for the mother. But your interest in the case will not end with the expulsion of the embryo, or the birth of the fœtus, as the case may be, any more than the surgeon's interest in his patient should end with the operation of cutting off a leg, or stitching up a wound. Success may depend wholly upon the after-treatment.

First, then, as in surgical fever following bodily injuries and surgical operations, *rest* is the great remedy. A woman, the lining membrane of whose womb has been forcibly torn off in an early abortion, perhaps, by the use and abuse of instruments, or whose placenta has been prematurely detached in miscarriage, is as unfit for exercise as the man who has but just undergone an amputation of the thigh. Under these circumstances it is as necessary and proper that the uterus should repose quietly as that the stump should not be injured by the patient's hobbling around.

Rest.

I know there are women who ignore and disregard these precautions, and who do really escape any very serious consequences. But, depend upon it, these cases are exceptional. Thousands of them suffer and die of obscure, or more obvious, uterine disease as the result of a lack of care after a miscarriage. It is no uncommon thing for women to leave home on a long journey directly after "getting through," or even while they are in danger of aborting on the way. And some of you know from experience what it is to have such patients come to you from a neighboring town or city directly after an "operation," looking to the murder of the little innocent, has been performed. In this case the unknown city doctor kills the offspring, while, despite your best efforts, the ride and the excitement may cost the mother her life.

The analogy between the post-partum effects of abortion and the sequelæ of a severe injury, or surgical operation, suggests the use of arnica both locally and internally in these cases. The strong tincture may be diluted in the proportion of one part of the arnica to six of water, and applied by means of compresses over the hypogastrium and pudenda. If the patient flows freely, or is particularly addicted to hæmorrhage, the water should be cold; otherwise, if she prefers, it may be tepid or even warm. You can advise whatever attenuation of arnica you choose, to be taken internally at the same time.

Arnica.

A very common, and a very useful prescription, of the stereotype sort, is to give aconite and arnica in hourly or less frequent alternation. These remedies are wonderfully efficacious in warding off the incidental fever and traumatic inflammation. This prescription may serve you a good turn in case you find it impossible to visit such patients very often or regularly. It should be given as soon as the delivery and its immediate dangers are passed. Aconite is particularly indicated if the miscarriage was caused by fright, and has been followed by fear and dread of fatal consequences.

Arnica with aconite.

In case of the development of quasi-inflammatory symptoms, as in the spurious peritonitis, of which I have already spoken, ovarian irritation or neuralgia, undue determination of blood to the pelvic viscera without hæmorrhage, excessive perturbation, unrest, and nervous irritabil-

Belladonna.

ity, with more or less acute pain, local or general, I know of no remedy so useful as belladonna. Atropine in the third decimal trituration will somtimes remove these symptoms like a charm.

Chamomilla, colocynth, ignatia, hyoscyamus, and other polychrests will be useful under appropriate indications. If the pains assume the character of genuine after-pains, camphora, caulophyllin, belladonna, or nux vomica, may be required. If real metritis, phlebitis, or cellulitis shall result, the case will become more serious, and you will need to study very closely in order to find the appropriate remedy or remedies. Do not forget to give due weight to the accidental, as well as to the emotional causes of these secondary disorders. But I need not repeat what I have already said concerning their treatment.

If the abdomen is tympanitic, and exceedingly tender to the touch, order the dry, hot, bran poultice, or the application of dry heat by means of plates wrapped in flannels, or have the abdomen covered with cotton batting, or hot flannel. If the pain is circumscribed, and limited to one or the other ovarian region, it is possible that relief may follow a change of posture. Have the patient "change sides," and learn if she cannot lie with more ease upon one than upon the other. Forbid cold drinks while she is suffering, and let all her clothing, and that of the bed, be warm and dry. The chamber should be well ventilated, but do not allow a draft of air to pass near or over the bed. Place the patient in the most favorable position for regaining her health. And, what is sometimes as important as anything beside, see to it that officious neighbors and nurses, (and doctors too,) do not swarm about your patient in your absence.

Local treatment.

This woman is practically cured, and I will not change the prescription; for it is a good rule in medicine as well as in morals to "let well enough alone."

LECTURE XXI.

STOMATITIS MATERNA: NURSING SORE MOUTH.

Nursing sore-mouth; its Nature, Peculiarities, Symptoms, Diagnosis, Prognosis, and Treatment.

This is one of the most interesting, as well as vexatious diseases with which we are acquainted. It is interesting because of its limited history and prevalence, its peculiar pathology, its mortality under the old regime, and the imperfect development of its therapeutics; vexatious, because of its multiplied forms and complications, and its intractable nature, if not modified and remedied by appropriate means.

Nature. — Concerning the essential nature of this malady, various opinions have been, and are still, entertained by the profession at large. The most plausible of these, we apprehend, is that which refers its phenomena to a scorbutic cachexia. It has been convenient for the majority of medical men to attribute its origin to miasmatic influences; to a diminution of the red corpuscles of the blood; to scrofula; to menstrual irregularities, antecedent to conception; to a depraved and insufficient nourishment, and the like; but the best writers incline to the opinion that this catalogue embraces only the crude outline of its causes and consequences, while it leaves the radical nature of the malady itself an open question.

Theories of its origin.

That it is of scorbutic origin is evident, from the following considerations:

First; its causes are such as tend to derangements of nutrition and assimilation.

Second; it is invariably accompanied by anæmia.

Third; except in degree of violence, many of its symptoms are identical with those of the scurvy.

Fourth; the same dietetic regulations are requisite to cure the one as the other. Both demand a pabulum largely composed of vegetables, and of vegetable acids especially.

Fifth; they are alike mortal under treatment by excessive and improper medication, as by mercurials, quinine, etc.; and this fatality is induced by an identical process of disintegration of the tissues, in which their elements are forced to remain, without elimination, as abnormal constituents of the blood.

Sixth, those remedies which are most valuable in stomatitis materna, are also such as are most successfully employed against scorbutus.

Peculiarities. — The stomatitis materna has the following characteristics: It is peculiar to females, and always to women during the term of utero-gestation, or at some period of lactation. A few writers, indeed, claim to have witnessed examples of this disease in males; but as a rule, one would as readily anticipate attacks of "morning sickness," among the latter sex (rare cases of which do indeed occur), as of this particular variety of stomatitis; and in what follows, we are therefore to declare, and to keep in view the essential characteristics aforenamed.

Limited to gestation and lactation.

Symptoms. — These may be properly classed into local and general.

The local symptoms of the stomatitis materna are not subject to a regular order of development, but vary with each particular example of the disease. Their more usual approach, however, is as follows: The patient calls attention to a burning or scalding sensation in the mouth, which sensation is greatly aggravated by the taking of warm, or even of cold drinks, and by efforts to masticate her food. Upon inspection, the physician remarks a fiery, red appearance of the mouth, which redness is found to exist in patches, or diffused more or less continuously over the whole buccal surface. Sometimes this eruption is isolated, presenting the appearance of ulcerated tubercula of the size of a pea, more or less. Again the aforesaid patches attain the diameter of a quarter of a dollar, when they may degenerate into ragged and indolent ulcers, thus constituting the worst examples of the disease which are to be met with, and which frequently spring from chronic neglect, or from that still more deplorable cause — a dyscrasia induced by drugs that have been ignorantly prescribed for their removal.

Peculiar lesion.

With this local inflammation, whether it be diffused or isolated,

deep-seated or superficial, there are other symptoms which are equally characteristic. Among these there will be found a marked pallor of the surface, resembling chlorosis; a sad and dejected expression of the countenance; soft, flabby muscles, while the rotundity of the form remains as in health; anorexia, pyrosis, and other disorders of digestion; a profuse flow of saliva; the tongue is red and smooth; cutting and colicky pains from the simplest ingesta; alternations of constipation and diarrhœa; strangury, with strong and scalding urine, which is acid to test paper; palpitation, especially troublesome at night; the secretions are generally normal, the skin soft, but without any sensible perspiration; and, if during lactation, a decided sympathy between the child and its parent, whereby it is discovered to have inherited thus early, some of her more immediate and palpable frailties.

Incidental symptoms.

Chronic cases are likely to be accompanied by a diarrhœa which is chargeable to an extension of the specific inflammation to the middle and inferior portions of the alimentary mucous membrane. This symptom is frequently a very perplexing one, as well on account of the increased emaciation and debility which it occasions in every case, as because of its intractable nature, as shown in its alternating with the mouth symptoms, being better when they are worse, and vice versa.

In these examples, it is not unusual to discover that all the mucous membranes lining the different interior surfaces of the body partake of this inflammation. Thus the inner coats of the larynx, the trachea, and of the lungs, of the pharynx, œsophagus, and of the whole alimentary tract, as well as of the vagina and urethra, are sometimes found to be separately or universally involved. Hence result great disturbances of function, nutrition, etc.; for the destruction of the epithelial scales which marks the invasion of this disease upon local surfaces, interferes very materially with the healthy condition and requirements of those organs which are indirectly but more seriously implicated.

The foregoing symptoms are liable to so frequent modification, both in the order of their succession and in their severity, that authors have fancifully described some three to five distinct varieties of the nursing sore-mouth, for which classification, practically speaking, there would appear to be no real necessity. We shall, however, consider a few of them separately.

Of the buccal symptoms: These are the primary and more palpable symptoms of the stomatitis materna. There is very little question, however, but that these local phenomena are symptomatic of a more profound disturbance of the general organism; and that, properly speaking, we are to regard them as the certain evidence of some such original disorder. Examples are not wanting in which this disease is believed to have pursued a latent course in the system, during which interval, for a greater or less period of time prior to the development of these symptoms, it has sapped the strength and impaired the functional processes of the economy.

A constitutional disease.

Indeed there is every reason to believe that those cases of digestive and assimilative disorder, incident to utero-gestation, which distress and harass the patient exceedingly while carrying the fœtus, and which, subsequent to her confinement, will not unfrequently result in a manifestation of the above local symptoms, are to be referred solely to the existence of a latent stomatitis from the beginning. These examples are perhaps as infrequent as they are invincible, but in the practical experience of those physicians whose opinions are of value, the remark will hold good that it is only through a close and careful study that we may come to appreciate the worth of this class of symptoms, as affording us an index at once to their pathology and treatment.

The peculiar characters which such symptoms present are found to vary with the severity and duration of the complaint. In very mild cases the eruption assumes more of an erythematous appearance, being diffused in patches over the sides of the tongue and of the cheeks. Or it may consist of common vesicles, resembling the aphthæ adultorum of some writers, which vesicles ultimately degenerate into more or less troublesome centers of infection, each showing at its base a hardened and whitish colored ring. These indurations terminate either by cicatrization or ulceration. To this form of the complaint the name of follicular stomatitis has been given, for the reason that the peculiar eruption finds its more frequent seat in the mucous follicles of the mouth.

In bad cases, when these vesicles burst, they develop into ulcers, which are either superficial or deep-seated. If the system has been very much depraved, and the vitality runs low, these ulcers may be very numerous and of large size. You will find them located on the sides or upon the

The local ulceration.

upper surface of the tongue, upon its frænum, on the frænum of the lower lip, on the gums, the cheeks, or the roof of the mouth, and even in the throat and fauces. They are painful in proportion to the extent of the raw surface which is exposed, and to the depth of the ulceration. In exceptional instances these ulcerations have dipped down to the bone beneath.

It is not unusual for these characteristic lesions to disappear suddenly, leaving the patient in apparent health. After a brief interval, however, they reappear, and may thus keep coming and going for weeks, or even for months. In the most serious cases this sudden metastasis increases the danger, by implicating other and more vital organs.

Capricious nature of the lesion.

Symptoms of gastric or alimentary disorder almost always accompany those peculiar to this variety of sore-mouth. They may precede, follow or alternate with the buccal symptoms, but are rarely altogether absent. I have seldom treated a case of this form of stomatitis, during either pregnancy or lactation, which was not accompanied by epigastric uneasiness, anorexia, or pyrosis. Instances in which this disease runs its course without a more or less decided implication of the stomach and bowels are believed to be very rare.

Incidental gastric disorder.

In this respect the stomatitis materna resembles the aphthæ of infants which, as you are aware, is almost invariably accompanied by intestinal derangement, more especially indigestion and diarrhœa.

The concurrent digestive disorder in this variety of sore-mouth has been attributed to various causes, among which are the imperfect mastication of food; an improper and unwholesome diet; the actual transfer, or the continuation, of the local lesion to the gastric and enteric mucous membrane; to a depraved nutrition from other causes, and to glandular disease either in the intestine or the mesentery, or both.

Causes of the digestive derangement.

Among the numerous contingencies of pregnancy and parturition there are few which are more troublesome than an inveterate diarrhœa. This is especially true in patients of a scrofulous or tuberculous diathesis. And it

Diarrhœa.

is this class of subjects which is most liable to be seized with it after labor. When complicated with stomatitis the diarrhœa may either anticipate or follow the symptoms already enumerated. More frequently, however, it alternates with them — a fact which implies a metastasis of the peculiar disorder from the oral to the intestinal mucous membrane.

Disordered digestion and assimilation are, therefore, almost certain to exist in well-marked cases of stomatitis materna. Not unfrequently they are the source of well-grounded apprehension, and, if ever so slight, they will occasion you no little anxiety. You should bear in mind, however, that the coincident diarrhœa is but a symptom, and that its essential pathology is the same as that of the buccal erythema, eruption, and ulceration.

Beside local suffering in the mouth, the patient may complain also of a troublesome strangury, with smarting or scalding sensations during, or immediately after urinating. Occasionally these symptoms precede those already enumerated. Sooner or later they are almost certain to be present, and when they are not mentioned voluntarily, you will learn, upon inquiry, that they really exist.

Renal and vesical symptoms.

The urine is most commonly acid in its reaction — a symptom reputed by some authorities to be pathognomonic of this variety of stomatitis. Its specific gravity will vary from 1024 to 1030.

For the most part, the general symptoms are such as imply a debility which may be extreme. If the disease has existed for any considerable time, the patient is usually anæmic. She is pallid and exhausted, and the face appears puffy and bloated. Her complexion is less waxy and clear than in chlorosis, but has a sallow and cadaverous shade in it, which is not common in other diseases.

The anæmia.

These symptoms are likely to be accompanied by an irritative fever which may remit regularly and finally develop into a real hectic. It is said that primiparæ are more liable than multiparæ to this form of stomatitis. With certain women it appears to be constitutional, and always recurs during pregnancy or lying-in. The milk furnished by the breast may be either deficient or excessive in quantity. Not unfrequently it is of such quality as to poison the child and render it sickly and short-lived.

Wherever it may be located, authorities are not agreed as to

whether the anæmia in this disease is the cause or the consequence of the local inflammation and ulceration. The simple fact that it is limited to the periods of gestation and lactation, when the blood is being drained of certain elements for the support of the young, and that, as a rule, it ceases as soon as the child is born, or weaned, suggests that the anæmia must have preceded the local lesion. And such is the case. The woman may have been in ill-health for a considerable time before the sore mouth commenced. This primary impairment of the quality of the blood explains the greater liability of young, scrofulous, weakly and sickly persons, as well as of those whose systems have been reduced by frequent child-bearing, to the disease under consideration. It also affords a reason for the more general prevalence and malignity of this disease in miasmatic districts, and in those localities and seasons in which there is a scarcity of fruits and vegetables, and where, as a consequence, the stomatitis degenerates into a species of "land scurvy."

Is it cause or effect?

We can not otherwise explain the migratory character of the disease, its tendency to invade the pharynx, the œsophagus, and the gastro-intestinal tract, the respiratory apparatus, the nasal passage, the Eustachian tube, and even the genito-urinary outlet. In the order of its occurrence therefore, the anæmia is doubtless the first visible sign of the impaired nutrition upon which the stomatitis really depends, and without which it can not exist.

This form of stomatitis may commence in the early, the middle, or the latter months of gestation, and persist to term or even later. Or it may date from delivery, from the first month of nursing, or perhaps later and continue for an indefinite period. In very rare cases it exists in the form of pruritus of the vulva during pregnancy, and after child-birth develops into stomatitis proper.

Onset of the disease.

Diagnosis. — The diagnosis is not difficult. The sex of the subject and the peculiar circumstances in which she is found — either pregnant, or in one or another of the stages of recovery from her confinement,—with the local symptoms already detailed, will enable you to diagnosticate it readily. It is only when this disease is obscure and runs a latent course, being limited to the gastric, alimentary, or urinary

It may be latent.

mucous membranes, that you would be likely to overlook it, or fail to distinguish it from other similar and serious affections.

Prognosis. — The prognosis will vary with the original strength of the patient's constitution; her age, habits and surroundings; the co-existence of tuberculosis of the lungs, or of the mesenteric glands; the period of the commencement, and the duration of the disorder; the type and persistence of the accompanying fever; the seat, nature and extent of the local lesion; the anæmia and the emaciation.

Qualifying circumstances.

If, prior to becoming pregnant, the patient was robust and healthy, and had no cachexy, either hereditary or acquired, the probabilities are in favor of her recovery. This result is the more certain if she is young, of good habits, and lives in a healthy neighborhood. A tendency to phthisis in any of its forms is always a grave complication. If the stomatitis commences in the early months of gestation, it can seldom be cured before delivery, and other things equal, the longer its duration prior to labor the greater the danger. In rare cases it results in abortion, after which it ceases spontaneously.

If the accompanying fever is either typhoid or hectic in its type and character, you will need to qualify your prognosis. And so also if the disease has become chronic, with deep-seated ulceration in the intestines, the stomach, or the larynx and trachea. The occurrence of passive, or repeated, or excessive hæmorrhage from the mucous surface implies great danger. The more the blood is impoverished and vitiated, and the greater the emaciation and the muscular and nervous exhaustion, the fewer the chances of a speedy and certain recovery. It is sometimes quite impossible to eradicate this disease in the case of women who have had it in several successive pregnancies. Although recovery frequently follows the weaning of the child, yet even this expedient sometimes fails. The danger is increased by excessive or prolonged medication.

Treatment. — The first thing to be done is to select a suitable diet. This consists of a proper admixture of vegetable and animal food, for you will observe that in many cases the patient has lived almost exclusively upon meat. In frontier settlements, people sometimes eat little or nothing excepting bread and bacon. In such communities the

The diet.

women suffer from an aggravated form of the nursing sore-mouth, which is closely allied to scorbutus, and which may sometimes be cured by merely regulating the diet. Even in towns and cities similar cases are not infrequent.

The taking of solids is usually so painful that food must be given either in the semi-solid or fluid form. If, however, she can eat it, rare roast beef or mutton, or broiled meats which are juicy and nutritious, may be prescribed with good effect. She may also have milk, eggs, oysters, game, plain custards, animal jellies, cracked wheat, oatmeal, or, if she prefers, a little codfish with cream. Salt food may be permitted as an appetizer, but should be used sparingly. Potatoes, carrots, tomatoes, baked apples, and other fruits and vegetables, if fresh and fully ripe, are not only permissible but indispensable. Cures have been effected by allowing the patient to drink freely of butter-milk.

Other acidulated drinks are almost specific. Lemonade, orangeade, and jelly-water, are most available. They may be taken either warm or cold, as the patient prefers, and are not contra-indicated in most cases of indigestion and diarrhœa. Nor will they antidote the proper remedies. The best criterion, in their selection, is to consult the patient's preference, or craving, if she has any. The same is true with respect to the diet. As a rule, you may let her have whatever she longs for in the way of food or drink, providing it is not wholly indigestible or absolutely poisonous. The malt liquors and cod-liver oil have also been added to the bill of fare.

Acidulated drinks.

Rule for choosing them.

The expedients devised to check this disease, and to hold it in abeyance, and which are sometimes successful, are the induction of premature labor, the weaning of the child, and a change of climate.

Expedients for arresting this disease.

The induction of premature labor is justifiable only in those extreme cases of stomatitis in which it is morally certain that the patient must die unless pregnancy is terminated and the womb emptied of its contents. Fortunately such an extremity is almost never reached prior to the seventh month of pregnancy, after which the child is viable. In a resort to this expedient under such circumstances there is no warrant for the performance of criminal abortion, which implies and includes the intentional sacrifice of the fœtus.

Premature labor.

Because taking the child from the breast of the mother who has stomatitis will sometimes be of immediate and lasting benefit to her, physicians have inferred that weaning was the best remedy. The custom with some is to prescribe it indiscriminately. So soon as they discover the slightest inflammation and exfoliation of the oral mucous membrane, further nursing is prohibited. But weaning will not always mitigate or arrest this disease. Nor is it necessary to resort to this expedient in a majority of the cases that come under our care. Unless it is manifest that the mother is pretty nearly bankrupt in strength and nutritive resource, that she is drawing her life away to keep her child alive, that she is so anæmic and emaciated as to be totally unfit both on her own and the infant's account to nurse it any longer, we prefer not to interrupt this very important function.

Weaning the child.

A change of climate, especially if the patient leaves a miasmatic district, will sometimes cause the symptoms of this disease to disappear promptly and permanently. In exceptional cases a removal of a few miles only will work almost as marked a change in her feelings as it does in certain cases of asthma and of intermittent fever. This expedient is particularly applicable if the stomatitis is complicated with chronic bowel affections. Railway travel is indicated if there is an inveterate diarrhœa, and residence in an equable climate for those mothers who are consumptive. Hysterical subjects, with the nursing sore-mouth, may sometimes be sent away from home with the greatest relief to themselves and all concerned.

Change of climate.

The medical treatment of this disorder is constitutional and local. Of internal remedies, the various acids are in the best repute. The nitric acid has been given in the lower and higher potencies, under almost every variety of indications, and often empirically, with good results. The sulphuric and muriatic acids are equally useful. I remember a case in which two prominent physicians had treated a lady for stomatitis materna for two whole months. She grew worse and worse. Finally they told her that she must wean her infant, and that after doing so she could not recover her health under at least one year. I made her but

The medical treatment.

The various acids.

three visits, ordered a nutritious diet, and prescribed sulphuric acid in the third decimal dilution to be taken four times daily. She continued the remedy for the space of a fortnight. A radical cure followed, without weaning the child, or the employment of any local application whatever. My practice is to put twenty-five drops of the second or third attenuation of either of these acids in half a glass of water, of which two teaspoonfuls are to be taken once in from three to six hours.

Case.

Arsenicum is generally suitable for cases of this form of stomatitis which are to be met with in malarious districts. If there is burning in the mouth, with frequent desire for cold drinks; if the water which the patient drinks habitually is stagnant or impregnated with decomposing matter of various kinds; if there is great prostration of strength, anorexia, with chronic disorder of digestion and painless diarrhœa; if the system has been poisoned with quinine in large doses, or if the accompanying symptoms are analogous to those of typhoid fever, it may prove of excellent service. The same indications will call for natrum muriaticum. Dr. Murch was in the habit in these cases of alternating the arsenicum with small doses of Bellocq's charcoal. If the disease is complicated with glandular disease of a scrofulous or syphilitic character, the arsenicum jodatum might be preferable. Dr. D. T. Brown* has witnessed the best effects from preceding the employment of arsenicum with a few doses of carbo vegetabilis. Dr. W. C. Barker extols the use of "arsenicum 6th in alternation with sulphur 6th, repeated once in four hours, in those cases of nursing sore-mouth which are characterized by a very slight and almost imperceptible odor of the breath, with considerable prostration of the general strength." Dr. I. S. P. Lord vouches for the superior efficacy of arsenicum and natrum muriaticum in the 30th, in preference to other attenuations.

Arsenicum album.

The form of this disease to which mercurius is best adapted is that in which the ulceration of the tissues is very marked. The ulcers are corroding, the breath offensive, the secretion of saliva profuse, in short, the symptoms are those of the stomatitis ulcerosa of the old writers. If

Mercurius.

* Vide Transactions of American Institute of Hom., for 1860, p. 78.

there is no syphilitic taint, the mercurius corrosivus is preferable, otherwise the mercurius jodatus, or even the mercurius solubilis, may be selected.

Calcarea carbonica.

Where disorders of digestion in pregnant or lying-in women are due to a latent stomatitis, and particularly in patients who are predisposed to scrofula or phthisis, the calcarea carbonica may be of excellent service. The symptoms which indicate it are dryness of the mouth and tongue, with a sense of roughness and stinging; a dry, bitter, sour, or metallic taste; great aversion to boiled food and to meats in particular; inclination to salt diet, or to such indigestible articles as pickles, dirt, chalk, slate-pencils, etc.; nausea, with acid eructations; vomiting of ingesta; profuse colliquative diarrhœa, with undigested stools; a sudden metastasis of the eruption from the mouth to the alimentary mucous membrane; and acidity of the urine, with burning in the urethra during micturition. There are some examples of this disease which it would be very difficult, if not indeed impossible, to cure without this remedy.

Ammonium carb.

Dr. Helmuth reports* that ammonium carbonicum cured a case of long standing in which there was great prostration, hollow cough, and burning in the tongue—the whole buccal cavity being filled with vesicles and ulcerated depressions, and the tongue swollen, stiff, and very sensitive to cold air and drinks.

Baryta carbonica.

He also cites the case of a young lady cured by the use of baryta carbonica, for which remedy the chief indication was the absolute and complete anorexia.

Natrum muriaticum.

"In an emaciated female who had suffered severely from the disease, and had been troubled for a long period with ague, natrum muriaticum and arsenicum, in repeated doses of the 6th attenuation, effected a cure in twenty-one days."

Veronica beccabunga.

In the report to the American Institute, from which I have already quoted, my friend, Dr. N. F. Prentice, says: "Formerly I had a great deal of trouble in the treatment of this disease, and of sore mouth in children, but during the last three or four years I have used the veronica

*U. S. Journal of Hom., Vol. I, p. 413.

(empirically it is true, for I have but a very few provings of it,) almost exclusively, and with universal success. I have been in the habit of giving it internally in the first decimal attenuation, and of applying it locally to the mouth in the proportion of ten to thirty drops in two fluid-ounces of soft water. When they are indicated, I use other remedies in alternation with veronica."

Rhus toxicodendron.

Dr. J. Davies has succeeded in some obstinate cases by the application of a trituration of the rhus toxicodendron, and an internal use of the attenuations of the same remedy. He triturates the berries of this plant with saccharum lactis, in the proportion of one berry to ten grains of the sugar, and applies the powder, moistened, through the medium of a thin linen cloth.

Other remedies which are sometimes serviceable are belladonna, causticum, china, nux vomica, sulphur, hepar sulphuris, ferrum and staphisagria.

The local treatment.

Topical applications of various kinds are grateful and beneficial. The most common and harmless consist of lotions, washes and gargles, composed of borax, or borax and honey, sage and borax, a mixture of equal parts of borax and sugar in a pulverized state, tincture of myrrh, an infusion of the golden seal, or of cayenne pepper, butternut oil, or glycerine. Some physicians recommend the chlorate of potassa to be dissolved in glycerine and applied locally. Others prefer a very weak solution of the carbolic acid. And yet others are in the habit of prescribing the topical use of hydrastin in water, or glycerine, or both. In cases where the buccal and faucial mucous membrane is badly ulcerated and the breath is fetid and offensive, a drachm of the mother tincture of baptisia may be added to four fluid-ounces of water and applied locally. Or Bretonneau's mixture of one part of hydrochloric acid and three parts of honey may be used instead. Dr. Barker has the greatest confidence in frequent rinsings of the mouth with simple cold water. There are those who, in exceptional cases, think it necessary to touch the ulcers with a pencil of the nitrate of silver. I prefer calendula, or hydrastin. Tannin and other astringents are harsh and revulsive, and may do more harm than good.

All of these therapeutical resources, however, are of secondary importance compared with the good effects of an appropriate diet,

a good climate, the stoppage of any nutritive drain, and the curative influence of fresh air and the sunlight. No remedy in any attenuation, and no local means of any kind will be likely to succeed if the general conditions are not supplied; and therefore our first duty, even before choosing the remedy, is to see that they are furnished. In the milder cases they are all that is necessary, and we can save our medicines for those who really need them.

And, let me tell you in this connection, that there is more of reputation, as well as of good sense and satisfaction, in curing some of our patients by means that are within the reach of everybody, than there is in the use of those which are more scientific and fanciful. "The best physician is he who knows when to withhold his remedies."

THE RENAL FUNCTION AND THE GRAVID UTERUS.

The clinical significance of renal inadequacy, of renal embarrassment and of renal inflammation in a pregnant woman who has passed the fifth month is very great. For whatever we may say of uterine displacements as a source of mischief, those which occur while the organ lies above the brim of the pelvis are often beset with the most serious consequences to the mother and the child. It is then that the body of the gravid uterus should lie obliquely, and whatever forces it into line with the long axis of the body and forces it downward as when primiparæ resort to tight lacing, will cause the kidneys to be functionally or organically diseased through pressure upon the abdominal vessels. Albuminuria, dropsy, a temporary form of Bright's disease, uræmia, puerperal convulsions, mania and paralysis not unfrequently result from this cause.

PART FIFTH.

THE POST-PUERPERAL DISEASES.

LECTURE XXII.

SUB-INVOLUTION OF THE UTERUS.

Sub-involution of the uterus. *Case.*—**Sub-involution with recurrent abortion.** *Case.*—**Sub-involution and chronic metritis of eighteen years' duration.** *Case.*—**Sub-involution, chronic metritis, menorrhagia, and prolapsus.** *Case.*

Under the head of post-puerperal diseases I shall include those affections only which, while they do not come under our care during the lying-in period, are yet necessarily related to labor. Being a sequence of delivery, whether at term or prematurely, they are sometimes styled post-partum affections. Their common and cardinal peculiarity is that they depend upon lesions within and about the post-gravid uterus, and are therefore limited to those who have been pregnant. Such of them, however, as require surgical treatment will be considered further on.

In our obstetrical and puerperal clinics you are being taught at the bed-side whatever pertains to the clinical history of labor and of child-bed disorders. My own special course on the puerperal affections will acquaint you with the most interesting and practical part of this very important subject, while it excuses me from their consideration in my general course upon the diseases of women.

Manifestly the list of post-partum lesions should include the remote sequelæ of abortion, of miscarriage and of premature delivery, as well as of labor at term. For a post-abortum laceration of the cervix uteri does not differ in any essential particular from one that has occurred at the ninth month. Post-partum cellulitis and sub-involution of the uterus are the same in both cases, and we shall never know how to treat them intelligently until we take their common and invariable cause into account.

It is especially incumbent upon us to consider this and kindred questions very carefully; for we, of all others, should discriminate between those diseases which are idiopathic and such as are symptomatic, or between the primary and the secondary affections that we are expected to cure. When a mother consults us for the relief of an intra-pelvic disorder, we should, if possible, satisfy ourselves whether the lesion that we find does not date from her delivery, no matter how long since her baby was born, or from some mishap or neglect which interfered at that time with her puerperal convalescence.

This subject is so very important, and concerns the welfare and comfort of so large a class of our patients, that I must beg you to give it your especial attention just now, while the opportunities for its clinical study are so abundant and so easy of access.

SUB-INVOLUTION OF THE UTERUS.

Case.—Mrs. S——, aged 37, has not been been well since her last confinement, which was six years ago. After the birth of the child, the labor being rapid and very painful, but quite natural, she was taken with uterine hæmorrhage, which was very active and copious at first, but finally became passive. This hæmorrhage did not and would not yield to remedies. The doctors could not cure it, and it ceased only when she had weaned the child. Subsequently her menstruation was resumed, but it was too profuse and long continued. Sometimes she continues to flow for three weeks, constantly, and has only one week's interval before the period comes around again. But the discharge always lasts a fortnight. She has no pain or soreness, but complains of dragging sensations in the uterine, ovarian and sacral regions.

After the third attack of menorrhagia she began to have dropsical symptoms. Her face, hands and feet, and finally the whole general integument, became puffy and œdematous. Then she had palpitation of the heart, and dyspnœa after slight exertion, as in walking up stairs. Sometimes she would waken out of sleep with impending suffocation, and in order to breathe freely would be compelled to jump out of the bed, and to walk about her room. This was accompanied by violent beating of the heart, and a sensation as if she had been struck upon the head. She is positive that the urine has always been normal in quantity and quality. She has had six physicians, five of whom have treated her for "disease of the heart." The other one said she had "ulceration of the womb," and applied caustics to the cervix uteri (or thereabouts), twice each week, for several consecutive weeks.

This bit of clinical history is significant and suggestive. But it is incomplete. The fact that this woman's ill-health dates from her last labor, and that the most prominent and urgent symptoms relate to the menstrual return, are pretty certain indications that something is wrong with the womb. It cannot be ulceration of the cervix, merely, for unless it be cancerous such an ulceration is never accompanied by so severe a hæmorrhage. And if it were cancerous it would not have begun so directly after delivery, neither would it be apt to return with the regularity of the menstrual cycle.

I have passed the sound into the uterine cavity, and find, by actual measurement, that its depth is five inches. The instrument entered without difficulty, and passed to the fundus of the organ without the least obstruction. My first impression on finding the uterine cavity of such an increased size, was that its enlargement was probably due to the presence either of a sub-mucous, or of an interstitial fibroid. But, failing to find any evidence of such a tumor, and satisfying myself that the increased development of the organ was uniform on all sides, and that its cavity did not contain any abnormal growth, I decided the case to be one of subinvolution of the womb.

The depth of the uterus.

To the "touch" the cervix feels swollen and enlarged; and on examination through the abdominal parietes, by conjoined manipulation, in this manner, an oblong tumor is found rising above the pubes. Thus examined, between the two hands, the mobility of the tumor is consentaneous with that of the womb. We exclude the possibility of a subperitoneal fibroid in this case, for the simple reason that, in chronic cases especially, extra-uterine growths are not necessarily, and, indeed, are almost never, accompanied by menorrhagia. Nor does the commencement of their growth date so directly and positively from the lying-in.

Negative symptoms.

Etiology.—Defective puerperal involution and resorption of the womb is more common than is generally supposed, and as a cause of ill-health is therefore very likely to be overlooked. It often follows abortion, more especially when it occurs after the fifth month. In women of lax fibre it is sometimes caused by a too early "getting up" after delivery

Various causes.

at term. Those mothers who do not nurse their children at first are very subject to it, although in a limited and circumscribed form. It is sometimes a sequel of twin-delivery, and also of an excessive accumulation of the amniotic fluid. Rapid labors, especially if they are not followed by after-pains, are more likely to be followed by defective involution of the uterus than those which are tardy and difficult; and I have remarked the same sequel from the use of chloroform in labor.

The latest generalization in gynæcology ascribes almost every case of sub-involution to a laceration of the cervix during or in consequence of labor. I shall refer to this subject when I come to speak of cervical lacerations and their surgical treatment. In the present connection it must suffice to say that, in my judgment, Dr. Emmets' view is too sweeping and exclusive.

This interruption is what physiologists style the "retrogressive metamorphosis" of the uterine tissues after delivery, and is intimately associated with the clinical history of uterine displacements. We cannot reasonably suppose that the extraordinary growth of these tissues, which has been going on for months, will be resolved away and removed in a few days after the womb has been emptied of its contents. The retrogressive changes are not always so rapid, and more time may be required for the organ to resume its proper size, weight, form, and relations. Hence the necessity for *post-partum* rest in the horizontal posture, and for the avoidance of all such causes as might derange this very delicate and wonderful process.

Imprudence.

Hæmorrhage after delivery bears so important a relation to the contraction of the womb that its occurrence and persistence in this case leads us to suppose that, following the labor, the involution of this organ was incomplete. And the uterine tissues must have remained in this relaxed state. The subsequent development of menorrhagia, with too frequent as well as too copious menstruation, confirms this view. So also do the dragging sensations, which she has experienced so constantly in the intra-pelvic and sacral regions, and the abnormal depth of the uterus

Hæmorrhage etc.

But how shall we explain the cardiac complication, and why did it follow the third instead of the first attack of menorrhagia? Manifestly, because of the excessive and continued loss of blood,

or of the anæmia which resulted from the hæmorrhage. If the heart symptoms had been dependent upon organic change, they would probably have disclosed themselves at an earlier period in the history of the case. In real cardiac disease we do not require to bleed the patient for diagnostic purposes. Functional derangement of the heart's action is a frequent accompaniment and consequence of anæmia and chlorosis, of an impoverished condition of the blood from whatever cause, and of chronic uterine and ovarian diseases which implicate the nervous system especially. And although the long-continued operation of these general and local causes may finally set up a real organic disease of the heart, yet such a result does not always follow. I have made a careful physical examination of this woman's heart, but failed to find any evidence of a structural lesion. And we may reasonably infer that, if she has nothing of the kind now, after having been treated for "disease of the heart" by five doctors in succession, she will probably be exempt from it in the future.

Treatment.—I am glad of the opportunity to show you this case, for it is a typical one, and its treatment involves certain questions which cannot be regarded as settled. In the first place, this kind of post-puerperal lesion underlies so many other uterine affections, that in many cases it is impossible to explain their nature or to treat them intelligently, without reference to what Simpson very properly styled a sub-involution of the uterus. And secondly, a practical application of our knowledge of the relation of certain remedies to this particular lesion would not only enable us the more promptly to cure the original disease, but likewise also, whatever might come of it, or be complicated with it.

Practical deductions.

Here the defective involution of the uterus is the prime cause of ill-health. That cause is still at work. Manifestly, the first indication is, if possible to remove it. But how shall it be done? Is there any known remedy for this relaxation of the uterine muscular fibre? There *are* well-known remedies which affect this organ, just as there are those which decidedly and certainly affect other hollow muscular organs, as, for instance, the heart, the stomach and the bladder. These include secale cor., sabina, china, and ipecacuanha.

The prime indication.

Ergotism in women is always accompanied by a determination

of blood to the internal generative organs, and if the uterine muscular fibre is at all developed, as during pregnancy, labor, or lying-in, by expulsive contractions of the womb. Under the latter conditions, ergot excites the peristaltic movements of that organ with the same certainty that opium congests the brain, and that veratrum viride lessens the force and frequency of the pulse. Its power to facilitate delivery at term, and to arrest *post-partum* hæmorrhage is established. This power depends upon an intimate physiological relation or affinity between the fully developed muscular fibre of the uterus and the spurred rye.

The physiological action of ergot.

But you should remember that the similarity of the womb with the other hollow viscera is exceptional, and by no means constant. Within the limits of health there is no condition in which the muscular coat of the heart, the stomach, or the bladder is wanting. Yet in the non-gravid uterus, and more especially in those who have never been pregnant, this coat has no real, but only a rudimentary existence; and in those women who have conceived, and even carried their children to term, the normal involution of the organ after labor has restored it as nearly as possible to its ante-muscular state.

So, therefore, we say, that there is a period in the history of most women, which is characterized by an extraordinary evolution of the uterine muscular fibre, and that the various disease-producing contingencies which beset its growth and decline have their therapeutical counterpart in remedies of which secale is the type.

The ergot is believed to act both through the nervous and the vascular systems. It supplies such a variety of motor force to the atonic uterine fibre as will stimulate its contraction, and at the same time secure a sort of specific or physiological torsion of the capillaries. This makes it *the* remedy for those hæmorrhages which depend upon a lack of uterine contractility; and there seems but little reason to doubt that if our patient had taken it directly after her delivery, the womb would have been closed, the hæmorrhage controlled, and the retrogressive metamorphosis of the tissues established. But, instead of such a complex and very desirable result, the womb remained flaccid, and did not fold upon itself; the blood ceased flowing temporarily, when there was little more to lose, but commenced again with the recurrence of the

monthly crisis; and the organ is larger and deeper to-day than it should have been an hour after the birth of the child.

Here, then, is the chief point in this case. The symptoms given followed her last confinement, six years ago, and with every menstrual return since that time, there being a similar engorgement of the uterus, and the same relaxed condition of its walls, she has passed through a similar experience. In so far as the loss of blood is concerned, and if it were possible, she might as well have borne twelve children each year. And can you see any reason why this drain should not impair the quality of her blood, and develop dropsical and cardiac symptoms? The only marvel is that she is still alive.

We must treat this defective involution of the uterus, with recurrent hæmorrhage, as we would treat the same train of symptoms, minus the œdema and the dyspnœa, if she were still in the lying-in chamber. The first indication is to secure the proper uterine contraction. The object of this is three-fold viz.: to stop the excessive flow, to stimulate the absorption of the redundant muscular structure, and to relieve her of the pain, and soreness, and dragging sensation to which she has been a martyr. This indication is plain and practical. The secale cor. may, perhaps, be all the remedy required. I have treated several such cases successfully with it alone. My preference is for the second or third dilutions. Sometimes I give one and sometimes the other. It is possible, in chronic cases like this, that the medium and higher potencies might be as useful; I cannot say.

Indications for secale.

Of this one thing, however, you may be assured, that in all such cases, whether they are directly or indirectly dependent upon a defect, interruption, or irregularity in the organic changes proper to the womb during pregnancy or parturition, you will do well to seek for therapeutical indications in the history of that abnormality, whether it be of *ante-partum* or *post-partum* origin. And, if the other incidental indications correspond with these, which are cardinal, so much the better. But let me warn you not to be misled by the occasional pathological contingencies of the case merely.

There is a wide and essential difference between a case of menorrhagia which depends upon a defective involution of the womb,

whether it be chronic or acute, and one of excessive menstruation, caused by uterine polypi, fibroids, cancer, cauliflower excresence, ovarian disease, chronic metritis, or an impoverished condition of the blood. This case is typical of a certain kind of menorrhagia, and I am speaking only of this particular variety. The reason why our best practitioners give comparatively few remedies, is that they learn to classify their cases in this practical way, and to group their remedies accordingly. When such a classification is impossible, they are compelled to proceed on the old *sui generis* plan. But in our day, when the means of forming a proper differential diagnosis are so multiplied and so accurate, these exceptions must be very rare.

That the secale not only causes the parietes of the womb to contract, but also has the specific effect to stimulate the absorption of an excess of its tissue, is shown in the recent experiment in which its active principle, ergotine, has been injected sub-cutaneously for the cure and removal of uterine fibroids.

Those of you who have ever given china in hæmorrhage after delivery, whether in abortion or at term, are aware of its virtues.

Indications for china.

For the relief of a familiar train of symptoms of this kind, and which are referable to relaxation and lack of tonicity in the uterine muscular fibre, even secale is not a more efficient remedy. The power of cinchona to produce a decided effect upon the muscular coat of the womb, is also shown in those cases of tardy labor, in which a few doses of quinine have caused the most powerful expulsive pains, emptied the uterus, and induced its cannon-ball contraction as a security against flooding.

And so, likewise, of sabina, ustilago, trillin, and ipecacuanha, which are so often and so unwittingly prescribed for the relief and removal of this identical condition. Doubtless, these remedies, and perhaps many others, have a curative relation, not only to acute and recent, but also to chronic and complicated cases of sub-involution of the uterus. I wish you might bear this fact in mind.

Indications for other remedies.

It is very important for this class of patients to abstain from walking and from standing for a long time. With the approach of the monthly period, and until the flow has entirely ceased, they should keep the recumbent, or, better still, the horizontal posture.

For, no matter how appropriate the remedy that is chosen, an opposite course would induce a hypostatic congestion, and subsequent hæmorrhage, with uterine prolapse or procidentia, and a perpetuation of the puerperal hypertrophy. This woman will take a dose of secale cor. 3d decimal dilution, three times each day.

SUB-INVOLUTION AND RECURRENT ABORTION.

Case.—Mrs. V——, aged twenty-two, has been married fifteen months. In that time she has had three miscarriages; the first at four months, the second at three and one-half months, and the third at three months. Prior to this experience she was always well; she used to weigh two hundred and five pounds, now her weight is one hundred and forty-eight pounds. The first abortion was caused by a fall upon her back. She kept around for a week after the fall, had no pain or especial inconvenience, and at the end of a week miscarried without pain. The flow lasted about three days; she remained in bed for nine days, and then got up, but, as she did not feel very well, she took to her bed again and kept it for four days more. Then she felt well and returned to her duties.

The second abortion was caused by stooping and lifting a wash-tub. This was done in the morning. She began to flow at once, and at nine in the evening the fœtus was discharged. She had no real pain, but kept her bed three days.

The third came on after putting up the clothes line, and hanging some heavy wet clothes upon it. This time she was in her bed for nine days.

The last abortion occurred six weeks ago. She had no physician in either case. Last week, or five weeks after the third "mishap," she had her menses, the flow continuing for six days. At that time she had more pain than usual with the discharge. This, she says, was the first and only time that she has menstruated since her marriage.

A rare case.

This case affords an excellent illustration of the natural history of abortion, (1,) because the patient is intelligent and honest enough to give an account of her experience; and (2,) because she did not have a doctor, either before, during, or after her "mishap." For once, therefore, we have a case of the kind in which the patient is frank enough to tell the whole truth, and at the same time, is free from the mischievous effects of professional interference.

Although this woman has been married only a little more than a year, she has already had *three* abortions; one at the fourth month,

another at three and one-half months, and a third at three months. Her case is one of *recurrent* abortion. It does not fully illustrate what has been styled the "habit" of aborting, else it would almost invariably have occurred at the same period of pregnancy, and, having begun at the fourth month would have continued to recur at very nearly the same date.

Frequency of abortions.

When abortion occurs repeatedly, it may assume a regular type, in which case it most frequently happens at the month. Or, as in intermittent fever, the type may change, and it may *anticipate*, or come earlier, as it has done in this instance. Sometimes the type is *retarding*, and a woman who began by aborting at the fourth month, will end by miscarrying at the sixth, or at the seventh month. And, whether the subsequent "mishaps" are earlier or later than the first, there is a curious tendency to respect the regularity of the monthly cycle, and, if they do not occur at the month, to happen half way between the periods. You will observe that each time this woman has aborted since the first attack, her pregnancy has been shortened just two weeks.

Types of abortion.

My own observation leads me to conclude that the more removed the date of miscarriage from the time in the month at which menstruation would have occurred, the less the probability that a diseased state of the ovaries has had anything to do with causing the trouble. Exceptionally, however, as in inter-menstrual dysmenorrhœa, the ovarian influence may be most pronounced in the middle of the month, and hence abortion, or miscarriage, from ovarian disease might occur at that time also.

It is morally certain that, when this woman aborted at the fourth month, it was not in consequence of metritis; because she had no pain from first to last, neither after the fall, nor yet with the expulsion of the embryo. And what was true of the first case, was true of the others also. Her singular exemption from suffering is also due, in no small measure, to the rest in bed which she took after each of the abortions, and to keeping off her feet, as if she had been delivered at term. For there is no such prophylactic of post-puerperal metritis as rest in the horizontal posture after the womb has been emptied of its contents, whether prematurely or not.

Peculiar cause of.

The treatment of abortion, and of its sequelæ is sometimes very difficult because of the impossibility of knowing what has caused it. But in this case, or rather in each of the cases under review, the exciting cause was *traumatic;* first our patient fell upon her back; the next time she stooped and lifted a wash-tub, and the third time she strained herself with the arms raised above the head. The etiology in this case is, therefore, very plain, and it sometimes happens that a disease is already half-cured when you know what has caused it.

Treatment.

It may, perhaps, appear strange to some of you that so slight an accident should produce such serious results, especially in a healthy-looking, vigorous woman like our patient. But it only proves that she was susceptible to the action of this class of causes, which, in women who are differently constituted, might have had no such effect. There are those who can undergo almost any kind of physical exercise or fatigue without the risk of abortion. Some women work hard throughout their pregnancy, and others travel and incur the greatest risks by sea and land without any mischievous results. But there are those in whom a misstep, a fit of coughing, or straining at stool, may be sufficient to arrest the development of the ovum, and to bring about its expulsion.

Peculiar susceptibility.

But what shall we prescribe for this poor woman? Is my duty discharged to her and to you when I have ordered a few powders, and told her to come again? A moment's reflection assures me that, under the present conditions, she would probably abort as often as she conceived. Her predisposition to abortion is partly original, and partly acquired. If we suppose that her fall was severe enough to have caused a perfectly healthy woman to miscarry, we cannot think, other things equal, that the slighter shocks should afterwards have had such serious consequences. There must have been something in her clinical history to predispose her to a repetition of the accident.

And that something which is at the bottom of the difficulty, is what we want to cover with our prescription. In fifteen months she has had her menses but once. Three times in that interval, in consequence of a fruitful conception, the womb has begun and continued to develop until it was suddenly and forcibly emptied of its con-

The importance of rest.

tents. Having the good sense to go into a puerperal quarantine, she dodged the contingencies of hæmorrhage, and of active inflammation. But, before the uterus could possibly have recovered itself, before its involution was half finished, before menstruation was resumed, gestation had begun again. And this process has been repeated twice already.

The first rational indication is to provide against such an experience in future. For nature would continue to resent such a disregard of her laws. The womb must rest, and recover its tone, as well as its size and form. We must take care that she menstruates regularly. And she should be very cautious about becoming pregnant again under six months or a year, when with proper care meanwhile, she might be able to reach her term without any accident.

She will take calcarea phos. 3d trituration, twice daily for one week, and then arnica 3, one dose every alternate night.

[One year later this woman became the happy mother of a healthy and vigorous child.]

SUB-INVOLUTION AND CHRONIC METRITIS OF EIGHTEEN YEARS DURATION.

Case.—Mrs. Z.—, aged forty-three, is the mother of three children, the youngest of which is eighteen years old. She has had no miscarriages. She has not been well during the long interval, but has suffered from articular rheumatism, menorrhagia and prolapsus. She has had much local treatment by escharotics, for an alleged uterine ulceration. There is great weight within the pelvis, especially in advance of the monthly flow, at which time she is compelled to keep to the bed or couch. The menses are very copious, and are accompanied by a great deal of pain. She did not nurse her last child. Her last labor was very prolonged, and finally was instrumental.

It sometimes happens that the post-partum involution of the uterus is interrupted even when the patient has suckled her child.

Causation.

If the menses return prematurely, and recur frequently, the flow will be menorrhagic and the conditions will be very similar to those in which the puerperal involution is interfered with by endo-metritis. This is the condition which predisposes to chronic metritis as a coincident affection. The lack of the proper tonic contraction of the uterus

favors the sub-involution, and the menstrual congestion precipitates the metritis.

An intimate knowledge of the special pathology of sub-involution is essential to its proper treatment. The best evidence of this fact is found in the method of treating it indiscriminately, as it it were always the result of an inflammation. You should bear in mind the clinical rule that, unless a woman has suffered from some form of metritis in child-bed, or unless it is the consequence of too early menstruation after her delivery, she is not likely to have sub-involution and metritis at the same time.

Not always the result of inflammation.

The case before us is, however, an exceptional one. We cannot learn her puerperal history, neither can we estimate the mischief that has been done in her case by cauterization. The menorrhagia and the pain at the month, as well as the inflamed condition of the cervix, which you observe in the field of the speculum, are so many evidences of metritis. The depth of the uterus, which, as you see is five inches, discloses the condition of defective involution that has existed for eighteen years. There is also a laceration of the cervix which must have occurred at the time of her delivery.

Physical signs.

It is a question whether Emmets' operation should properly be the first step in the cure; or if we should try to fulfill the physiological indication of securing the contraction of the uterus as a means of putting an end to the menorrhagia, the metritis and the prolapsus. For the present she will take the secale cornutum 2, four times a day.

SUB-INVOLUTION, CHRONIC METRITIS, MENORRHAGIA, AND PROLAPSUS.

Case.—Mrs. S., aged twenty-six, had a miscarriage at the fourth month of her first pregnancy, five months ago, in consequence of which she was confined to her bed for six weeks. The menses were very irregular and copious, with bearing-down pains when standing or walking, with great weight in the pelvis. During the monthly flow, this weight and pressure are so increased, that she is obliged to keep her bed most of the time. This was her first visit to the clinic. She had been cauterized for some time for uterine ulceration.

I have had this case placed upon the table in order to show you that sub-involution does not always depend upon a laceration of

the cervix uteri. The depth of the womb is four and one-half inches, and the uterine epistaxis and the prolapsus are the natural and necessary consequence of its non-involution. It was about as stupid to cauterize the womb in this case as it would have been to have put the tincture of iodine into its cavity, or to have propped it up with a pessary.

A practical lesson.

[This patient continued to report every week at the Clinic. She was examined locally from time to time, but no topical applications of any kind were made. She took nothing but the secale, and improved from the first. In ten weeks the uterus measured only three inches, and the metritis, the menorrhagia and the prolapsus having disappeared, she was discharged cured.]

SUB-INVOLUTION AND RETRO-DISPLACEMENT OF THE WOMB.

These two lesions not unfrequently coexist, both of them dating from child-birth. Sometimes a deep laceration of the uterine cervix will account for them, but the condition is quite as likely to depend upon a torn perineum. In such a case it may be difficult to decide what course to pursue in the treatment. My preference would be to stitch up the cervix and then to put the patient upon the proper internal and local treatment, as already advised, and finally to repair the perineum. The success of this consecutive treatment, which is partly medical and partly surgical, will depend upon the persevering use of the former, and the greatest possible care in the performance of the latter.

LECTURE XXIII.

PELVI-PERITONITIS.

Pelvi-Peritonitis.—Clinical history of. *Case.*—varieties,—Symptoms, the pain and its special characteristics,—the tympanitis, the facial expression, the temperature and pulse, the decubitus, the nausea and vomiting, the effect upon the menses, the chill and thirst, the stage of effusion, the fixity of the uterus, the peritoneal tumor, the reflex disorders.—Causes. *Case.*—Prognosis—Treatment both local and general. *Cases.*

Clinical History.—Although pelvi-peritonitis is much the more frequent with those who have borne children, or who have suffered from a miscarriage, it is not necessarily a post-puerperal affection. Seventy-five per cent of the cases are consecutive upon labor, and twenty-five arise from sources which are non-puerperal.

Compared with inflammation of the uterus proper, it is relatively about as frequent as pleurisy when compared with pneumonia. Indeed, if the truth were known, I have no doubt that there are more cases of pelvi-peritonitis than there are of pleurisy. And yet some of your preceptors may tell you that they have never seen a case of it.

Case.—Mrs. ——, came to me from Alabama. Her clinical history was as follows: She was twenty-two years old, and had been married eight months. Three months after marriage she had an abortion at the second month, which was induced by fright on a railway train. She had labor pains for twelve hours before the ovum was extruded, and was confined to her bed for three weeks afterward, during which time she seems to have had a sharp attack of metro-peritonitis.

From that time she has had a great deal of pain in the right half of the pelvis. This pain was diffuse and not localized, or of a burning character, as in ovaritis. It is however, very much aggravated at the period, when she is compelled to go to bed and stay there until the flow has ceased. At first the monthly discharge begins without pain, and generally without her knowledge, but in a period varying from half an hour to two hours, the suffering begins and does not cease entirely until the flow stops. The character of the flow is natural.

These intra-pelvic pains are very much aggravated by riding in a

rough carriage, on horseback, or over a rough road; by coughing, or rapid breathing from any cause; by constipation and unusual retention of the urine; by coitus, the introduction of the speculum, and of the uterine sound; and also by the occurrence of a storm.

Local examination reveals a pouching downwards of the right lateral cul-de-sac, with great tenderness and an inclination of the body of the uterus towards the left side. The tenderness extends forward to the region of the bladder and is so marked that, after being introduced, the most careful separation of the blades of a Cusco speculum causes an unbearable pain, especially in the right half of the pelvis. The passage of the sound, which was also very painful, showed that there was no uterine deviation, except in the direction already indicated.

Varieties.—Authors have recognized many varieties of pelvic peritonitis. Thus they speak of the common, the benign, the chronic, the suppurative, the menstrual, the recurrent, the hæmorrhagic, the tuberculous, and the cancerous forms of this disease. But these divisions are unnecessary, except as they serve to qualify the cause, the course, and the complications of this form of peritonitis.

Symptoms.—There are several stages in this disease, and the symptoms vary in each of them. Thus we have the stages of congestion, effusion, adhesion, resolution, and of suppuration. They are not all present in every case, for if the trouble is arrested with adhesion, that will be the end of it, unless there is a relapse; and so also with the other modes of termination. Many cases, however, pass into the chronic form and develop a sort of cachexia that is really incurable.

Different stages of.

The first, or the congestive stage is accompanied by pain which is usually, but not always, preceded by a chill. The pain is sharp, darting and lancinating in character, like that of ordinary peritonitis. Exceptionally it comes on without any prodroma; and still more rarely the pain is lacking altogether.

The pain.

The pain is located at the base of the abdomen, low down over the superior strait, but it usually inclines toward one hip more than the other. Its grand characteristic is that it is aggravated by motion, by pressure, by increased rapidity of respiration, by standing, and by the effort to urinate, or to evacuate the bowels. On account of this

Special characteristic of.

pain there is a marked and decided intolerance of the touch, whether it is applied by the vagina, the rectum, or in the combined form. In some cases this intra-pelvic pain is so decidedly increased by the touch and by pressure, that we cannot use the speculum to any advantage, or even, perhaps, succeed in passing it at all. This is especially true in case of the pelvic peritonitis which is contingent upon cancerous infiltration about the neck of the uterus and the vagina.

In the second stage, the pain is less acute and agonizing, and, according to the site and extent of the effusion, takes on a dragging, forcing character, with a feeling as if the womb would be expelled, and with more or less tenesmus of the bladder and the rectum.

Change of.

Another symptom which is seldom lacking is abdominal tympanitis. This may be local or general, and it may come on abruptly at the onset of the disease. The cause of the meteorism, the colicky pains, and of the disposition to vomit also, in this disease, is the adhesion of folds of the intestine to parts that are naturally free from such an attachment. Half the women who have tympanitis, menstrual colic and vomiting at the "month," are really ill with pelvi-peritonitis, although perhaps in so mild a form that it has not been recognized.

The tympanitis.

In acute cases the face is pale and anxious, but in chronic cases it may have the dull earthy hue of copræmia. When it follows abortion, especially if there has been a great deal of hæmorrhage, you will sometimes recognize the puerperal tint of M. Bordon.

The facial expression.

In pelvi-peritonitis, unless it be in the puerperal form, the temperature is not usually very high. It ranges from 101° to 103°, rarely reaching 104°. But the pulse has the characteristic frequency of peritonitis, although it is not so small and filiform as it is in diffuse peritonitis.

The temperature and the pulse.

The dorsal decubitus is the usual one, and the limbs are drawn up, in order to relax the abdominal parietes, as in puerperal peritonitis. In the chronic form of the disease, however, this posture may be assumed only at the monthly period, or after exercise, as in riding or walking. Sometimes the patient finds great relief from having the hips raised.

The posture taken.

In very acute attacks, and in the menstrual and the recurrent forms of the disease, there is apt to be more or less vomiting.

Nausea and vomiting.

Obstinate vomiting at the month is more likely to be due to this than to any other cause; and you should not forget that it may sometimes be relieved almost instantaneously by lifting a prolapsed womb into its proper position. The vomiting is more frequent in pelvic peritonitis than it is in pelvic cellulitis.

The menstrual flow is sometimes diminished, sometimes suppressed, and at other times is very much increased in quantity. When this form of peritonitis occurs in those who have never been pregnant, it is likely to induce either amenorrhœa or dysmenorrhœa; but as a post-puerperal affection, in the great majority of cases at least, it is accompanied by menorrhagia and sometimes by metrorrhagia.

Effect upon the menses.

Unless there are septic or pyæmic complications, or extensive suppuration with relapses, the initiatory chill does not repeat itself. There may, however, be inordinate thirst, with or without tolerance of cold water, and a loss of appetite.

The chill and thirst.

When the local congestion has continued for a period varying from a few hours to several days, it is relieved by the effusion of serum, as in pleurisy or synovitis. When this has taken place the local symptoms, as revealed by the "touch," are entirely changed. Now three things are to be especially noted; (1) the diminution of the local pain on pressure, (2) the fixation of the uterus, and (3) the presence of a tumor at some portion of the roof of the vagina.

The stage of effusion.

Three points to be observed in local examinations.

This diagram will give you an idea of the formation of the lateral pouches made by the dipping of the peritoneum at the sides of the uterus. The retro-uterine depression is more capacious, and comes lower down, especially upon the left side.

The more extensive the circum-uterine inflammation, and the more prolonged the first stage of the attack, the greater the liability of the uterus to become anchored by adhesions. If the case is complicated with cellulitis, or with tuberculous or cancerous infiltration, you may find the uterus quite immovable. Fixity of this organ is very apt

The fixity of the uterus.

to follow in case of pelvi-peritonitis that has been caused by a mischievous use of the sponge-tent, the hysterotome, caustics, and

FIG. 82. The Utero-lateral Peritoneum.

even the wearing of an illy adjusted pessary. It sometimes creeps on insidiously as a sequel to endo-metritis, membranous dysmenorrhœa, and partial or complete stenosis of the cervix uteri.

When the effusion has taken place, the fluid drops into the most dependent portion of the peritoneal cavity. Hence the swelling formed by the accumulation will naturally be found at the roof of the vagina, and as a rule, either laterally or posteriorly. The most frequent seat of this tumor is at the Douglas pouch, which, if the quantity of fluid is large and limited to that vicinity, will be so inverted as to protrude behind the cervix. If this inversion and protrusion of the roof of the vagina takes place on all sides it will throw a kind of collar about the cervix which is peculiar and cannot be mistaken. Sometimes it is of limited extent and may occupy one side of the pelvis only. Even when the effusion is very extensive the tumor that is formed does not very often rise above the superior strait. And, because the peritoneum does not extend below the level of the posterior lip of the cervix, it does not drop very far downwards, or reach the vulva as may happen in pelvic cellulitis.

The peritoneal tumor.

To the touch, the feel of the tumor is hard, irregular and immovable. In the relapsing form of the disease it is almost always painful on pressure. Like the tumor of pelvic hæmatocele, the

firmness of its texture is more pronounced the older it is, or at least, until suppuration has taken place and an abscess has formed.

If the attack terminates by adhesion, or by resolution, this tumor may disappear altogether. Such a result may happen spontaneously, even when the tumor is as large as an orange, or the fœtal head. This is the class of tumors which are sometimes mistaken for ovarian tumors, and which are reported in the journals as cured by all sorts of remedies.

In the chronic form of pelvi-peritonitis menstrual relapses are the rule and not the exception. It seems that, the more the uterus and its appendages are bound down by the false membranes which have resulted from previous inflammation, the more intolerant it is of the monthly nisus. For this reason the worst cases of dysmenorrhœa, which develop into menorrhagia and drag a patient down, are dependent upon this variety of peri-uterine inflammation.

Menstrual relapses in.

The bands which fasten the uterus to the Fallopian tubes and the ovaries, the bladder, and the rectum sometimes interfere very decidedly with their functions. The extension of the inflammation to the peritoneal coat of the intestines may result in more or less of strangulation and agglutination and thus interfere very materially with the nutritive function. From these causes, chronic pelvic peritonitis is almost always accompanied by a series of reflex disorders, such as spinal irritation, headache, hysteria, and paralysis.

Reflex, digestive, and other disorders.

There is a form of pelvi-peritonitis which results from blenorrhagia, and which, besides being accompanied by sterility, is very difficult of cure. It is very likely to occur in the wives of those men who have been dissipated in their early years, or who, because of absence from home and other circumstances, are led to the practice of wrong habits. These cases originate in a gonorrhœal ovaritis, and are as unmanagable, if you fail to recognize the taint, as some cases of crusta lactea are from a similar cause.

Gonorrhœal pelvi-peritonitis.

Causes.—Much of the confusion of medical writers concerning pelvic peritonitis is attributable to the fact that most of them, and the best of them, have insisted that it was always consecutive upon metritis. Bernutz, whose excellent clinics I attended in Paris, is the leader of this

A source of confusion.

party. *Jousset and others, however, recognize a variety of causes which may or may not be connected with any form of metritis, whether puerperal or non-puerperal.

These causes include abortion, an extension of endometritis through the oviduct to the peritoneum, as sometimes happens in the lying-in, salpingitis, ovaritis, metritis, gonorrhœa, pelvic-hæmatocele, uterine and ovarian tumors, the extension of entero-peritonitis, cystitis, rectitis, uterine deviations, coitus and the use of injections during menstruation; and the traumatic effects of operations about and within the cervix uteri, more especially cauterization, the passage of sponge-tents, forcible dilatation, incision, and amputation of the same, the resort to intra-uterine injections, and the wearing of mal-adjusted pessaries.

I have long been satisfied that a large share of the non-puerperal cases of pelvic peritonitis especially, are of a rheumatic nature.

From rheumatism.

Some of the worst examples that I have ever seen, belonged to this class, and have occurred in women who have never been pregnant, and in whom there was an evident translation of the rheumatic lesion from other serous membranes to the peritoneum. Here are the notes of a case of this kind which was sent to me by Dr. C. C. Brace, of Boulder Colorado, and which is still under my treatment.

Case.—Mrs. ——, aged thirty-eight years, was married fourteen years ago, but has never been pregnant. She has been ill for four years. She was first taken violently with spinal meningitis, and this illness continued from December until April. As soon as the back was better she began to have very severe pains within the pelvis. In a little while the spinal suffering was entirely substituted by the pelvic pain and distress. Five years before, she had been operated upon for vaginismus; but now a similar spasmodic condition of the vagina came on again, and the operation was repeated in the month of July. About the first of October she began to sit up again, but, in a fortnight became worse and complained of very severe intra-pelvic pain and distress. She had paroxysms of this suffering which occurred at the month, and at other times also in consequence of the least fatigue or worry.

After the second operation she returned to Nebraska in January, where she remained two months on a visit; but while there the old pain in the back and neck returned. The consequence was that she was obliged to return to Colorado. There she was confined to her bed for eight months, during which time the spinal symptoms

*Lectures on Clinical Medicine, translated by Ludlam, Chicago, page 268.

almost entirely disappeared and the pelvic suffering came back again. Added to this she began to have spells of intractable vomiting from prolapse of the uterus, to which she has now been subject for two years, and which my friend Dr. B., and myself also, have frequently relieved by repositing the womb.

The menses return regularly every four weeks, being sometimes a day or two in advance. The flow continues four days, is normal in quality, and has never been very copious. The local symptoms are those of an unmistakable pelvic peritonitis.

Other accidental causes have been assigned for this form of peritonitis. A case is reported in the British Medical Journal, in which the attack was induced in a young girl, by swinging. My friend Dr. W. A. Sheppard, of Dundee, Ill., called me in consultation a few months ago to a woman who had had a severe attack of pelvi-peritonitis with a sudden anteversion of the uterus, that was caused by her being swung over and over several times in a hammock.

Diagnosis.—Pelvic peritonitis is much more likely to be mistaken for pelvic cellulitis than for anything else. But, since I have not yet spoken of pelvic cellulitis, it will be best to defer my remarks upon the differential diagnosis of these two affections, until the next Lecture.

From pelvic cellulitis.

In pelvic hæmatocele the recent tumor is soft and yields to pressure; but as it grows older it becomes more firm and unyielding. On the contrary the tumor in pelvi-peritonitis is hard at first, and becomes soft and fluctuating when pus has formed in it. As a rule the hæmatomatous tumor is much the larger of the two. The constitutional symptoms are very different. Peritonitis often attends upon hæmatocele either as a cause or as a complication. We shall speak of pachy-peritonitis and its resulting hæmorrhage at another time.

From pelvic hæmatocele.

The diagnosis of pelvic peritonitis from parenchymatous metritis is very clearly given by Guerin:* "In both these affections the invasion of the disease may be announced by a chill; both are accompanied by acute pain, and we may find in the case of metritis a tumor which, reaching above the pubis, may lead us to believe that it is due to

From parenchymatous metritis.

*Lecons cliniques sur les maladies des organes génitaux internes de la femme, par Alphonse Guérin, etc., Paris, 1873, page 366.

pelvi-peritonitis. But the vaginal touch will soon dissipate our doubts on that question. In metritis we shall recognize that the tumor is movable, whilst in peritonitis it is fixed by adhesions as firmly as if it were nailed. In this form of peritonitis the culs-de-sac are filled by the tumor, while in metritis they are free. In metritis the cervix uteri is larger than normal, its lips are thick and everted. The os uteri is not changed either in its volume or its consistency in pelvi-peritonitis."

Jousset differentiates between pelvic peritonitis and abscess of the iliac fossa as follows: *"In abscesses in the iliac fossæ, if they are superficial, the tumor is not perceptible by the vagina, but extends directly towards the horizontal ramus of the pubis. When they are deep-seated and profound, there is retraction of the thigh upon the pelvis, through irritation of the psoas muscle; very often œdema of the labia majora, and a deep-seated swelling in the external portion of the iliac fossa, which afterwards is felt in the lateral walls of the vagina, and towards the horizontal ramus of the os-pubis."

From abscess of the iliac fossa.

Prognosis.—The simple adhesive form of this disease may run its course and terminate favorably in a month or six weeks; but more serious cases will require more time and care. In both, and in all forms of pelvi-peritonitis there is a marked tendency to relapse, and the slightest imprudence, exposure or over-exertion may precipitate a fresh attack. This peculiarity is so pronounced, that an experienced gynæcologist will be very careful in promising to cure this affection, or in claiming that he has ever succeeded in doing so.

In the adhesive variety.

When the adhesions are very extensive they complicate the case and protract the cure, by binding the uterus and its appendages and the intestines in unnatural positions, so as greatly to increase their tendency to disease, and to increase the suffering of the patient also. For this reason the most tedious cases are sometimes characterized by an absence of the tumor. This is especially true in such as are non-puerperal, as the gonorrhœal and the rheumatic. Do the best we can, some of these cases will continue for years without any permanent improvement.

* Op. citat. p. 275.

In attacks of pelvi-peritonitis which are secondary upon puerperal metritis, salpingitis, and ovaritis, as well as in those which follow a prolonged course of local treatment by escharotics, and the harmful expedients of uterine surgery, the result will vary with the duration and severity of the previous disease, or of the treatment to which she has been subjected, and her remaining constitutional

In the puerperal and secondary forms.

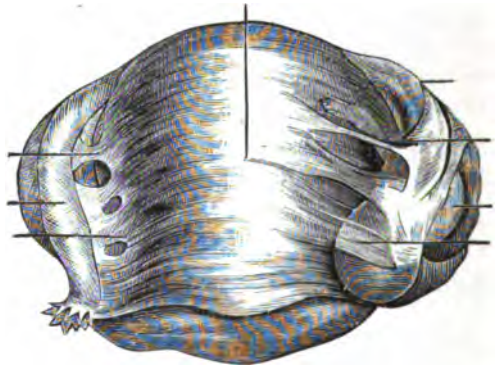


FIG. 33. Peritoneal Adhesion of the Tubes and Ovaries to the Uterus.

vigor and vitality. If the primary disease has been protracted, if she is of a scrofulous habit, if her strength has been exhausted by nursing, or impaired by her inability to eat well and to digest her food, if she has had menorrhagia, or repeated abortions, the tendency of the tumor to develop into an abscess will be very much increased.

Pelvi-peritonitis is comparatively frequent in delicate women who are predisposed to tuberculosis. This complication, or the possibility of it, should lead you to qualify your prognosis.

In tuberculous subjects.

Treatment.—The treatment is local and general. The uterus is so swung in the folds of the peritoneum, that a moment's reflection will convince you of the importance of rest for the patient when that membrane is inflamed. If a woman cannot wink without changing the position of the womb in its relation to other organs, or without tightening and stretching its ligaments; and if these

The importance of rest.

means of support are composed most largely of peritoneum, it is evident that bodily rest is indispensable to the cure of pelvi-peritonitis. No advice is more harmful in these cases than to insist that the poor victim must get up and go about, must exercise vigorously, and walk or ride, perhaps on horseback, or travel about as if she were well. Certain modes of exercise are very injurious, as for example, running a sewing machine, sitting for hours at a piano, or standing all the day long in a store, or all the night at a party.

When these habits are resumed after an attack of peritonitis, no matter how slight it may have been, we cannot expect that the inflamed surfaces will ever be restored to their *ante-morbum* state.

A mode of exercise including the proper postural treatment for some of these cases has recently been suggested by Dr. Van de Warker.* This mode consists in placing the patient in a hammock. Dr. W. says: "I have used the hammock several times, and have never failed to observe more or less relief as an apparent result. If we examine the matter we shall perceive good reason for such a result. The position of a patient in a hammock is one peculiarly adapted to relieve tension upon intra-pelvic indurations or adhesions; from head to heels, the patient is in a perfect bow, the pelvis elevated. The natural effect is, first, to relieve tension, or stretch; second, to lessen hyperæmia of the pelvic vessels by the elevation of the hips. All this, of course, relieves pain.

"But we have a further effect not so easy to explain. A peculiar sedative effect seems to be due to the motion. We all know how seductive and soothing is the sense of langour that steals over the senses, while gently oscillating in a hammock. There is no doubt but the Lotus-like tendency has its force doubled in the case of a woman whose power of nervous resistance is weakened by disease, or put upon a severe tension by pain."

The local expedients that may be of service consist in the use of hip baths of warm water, or vaginal injections of the same, the topical application of the bran poultice and other emollients, and the painting of the lower portion of the abdominal integument with Latour's oleaginous collodion.

Local treatment.

If the womb is out of place it should be carefully reposited, but

* Transactions of the American Gynæcological Society. Vol. 3, 1878, page 342.

pessaries of all kinds are harmful, and cannot be borne. There is scarcely a week that passes in which I am not obliged to remove a pessary that is persecuting some poor woman in this way. In very exceptional cases, however, an instrument with a perineal support may not only be tolerated, but of real service. All those which put the vagina upon the stretch, are mischievous, even in the milder forms of pelvi-peritonitis.

Of late, excepting in local peritonitis with pelvic hæmatocele, we never find it necessary to resort to opiates in these cases. There is an expedient which has the double merit of relieving pain and of being of direct benefit in curing the inflammation, and that expedient consists in the use of very warm or hot water, in the form of a vaginal irrigation. It is always available, and will assuage the pain as promptly and more efficiently than morphine. Its use can be repeated as often as necessary without any harmful results; nor does it in the least interfere with the action of the appropriate

A substitute for opium.

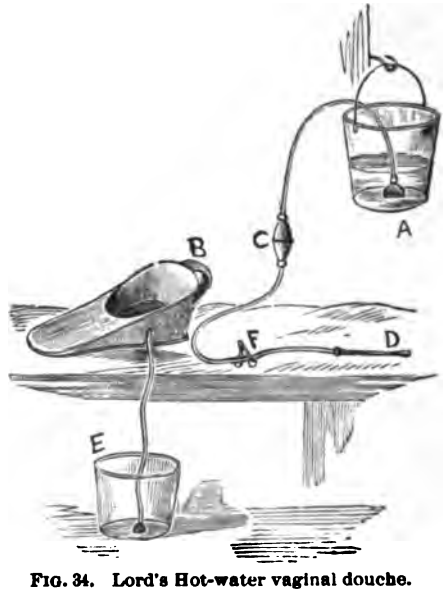


FIG. 34. Lord's Hot-water vaginal douche.

internal remedies. Moreover, it is quite as useful in pelvic cellulitis and in hæmatocele as in pelvi-peritonitis; and, since these affections may merge, or are apt to be mistaken for each other, this surely is an advantage.

To apply these injections (first recommended by Emmet), the patient should lie upon her back with the hips raised. She should be undressed and go regularly to bed. Then place an old-fashioned English bed-pan beneath the hips, or bring them to the edge of the bed, and so arrange the rubber cloth beneath them that the water may flow into a basin or bucket upon the floor. The stream can be thrown by a syphon of plain rubber tubing, or by a syringe with a constant current. See Figs. 36 and 37. The temperature of the water, of which from two quarts to two gallons may be used at one time, may be gradually increased from 98° to 108°. The operation may be repeated as often as necessary without any bad effects.

Mode of applying the hot-water injections.

Where there is much induration a tampon of cotton that has been saturated with the mixture of aconite, hamamelis, calendula, conium or chloroform, and glycerine, may be passed within the vagina, or pressed gently into the posterior cul-de-sac, and left there for some hours. If the case is rheumatic, the hamamelis used in this way will give the most relief.

For the induration.

Whatever may be said to the contrary, it is of the utmost importance in these cases to keep the bowels in a soluble condition. With women of sedentary habits especially, the best chosen remedies in the world will not bring about the desired result while they continue to suffer from constipation, with the passage of hard, dry, scybalous stools. The same is true of the co-existence of hæmorrhoids.

Obviate the constipation.

I have seen cases of pelvi-peritonitis upon which no positive curative impression could be made by the resources of gynæcology, until they had been relieved of a harrassing cough. Every fit of coughing induced a fresh attack of the intra-pelvic pain and distress, and sent the patient to her couch or her bed. Sometimes such a cough may depend upon a coincident pleurisy, and the remedies that are suited to one will answer for both of these affections.

A clinical hint.

The general treatment consists in the appropriate use of remedies. But Jousset is quite right when he says, that the special pathology of pelvi-peritonitis is so recently known, that we have no clinical and classical treatment

General treatment.

for it. He, however, recommends three remedies as being the most useful in the acute stage. These are aconite, colocynth, and cantharis. I must refer you to his work on Clinical Medicine for the special indications which he has given for their use. He has great confidence in the employment of the mother tincture of aconite, of which he says: "In very acute and severe cases we do not hesitate to prescribe twenty to thirty drops of the mother tincture, to be taken within twenty-four hours; but where the attack is milder and not so threatening, the lower dilutions (the first, second and third) have always been sufficient. Whatever the dose or the dilution, the aconite should be continued while the fever continues to be violent." The indications for this remedy are drawn from the character of the fever, and from the serous inflammation.

Aconite.

I have long ago learned to have confidence in colocynth in some cases of pelvi-peritonitis. Dr. Richard Hughes relates that, in a case of poisoning by colocynth, the autopsy showed that the intestines were glued together by a recent exudation of lymph;* and it has seemed to me that this remedy was especially adapted to those cases in which the disease had shown a disposition to involve the peritoneal coat of some portion of the bowel, or of the ovary. The symptoms which indicate it are colicky, cutting, tearing pains in the abdomen, and diarrhœa with rectal and vesical tenesmus.

Colocynth.

Where there is much tympanitis, with diffuse tenderness, neuralgic pains, nervousness, insomnia, flushing of the face, with dilated pupils and delirium, belladonna will be of service. In a general way this remedy is useful to abort the congestive stage of pelvic peritonitis. If you are certain that it is indicated and relief does not follow its employment, you will sometimes do well to substitute a few small powders of atropine 3. If tardy menstruation is the cause of the congestion, you may drop the belladonna and substitute gelsemium.

Belladonna and atropine.

Gelsemium.

Bryonia should not be forgotten or overlooked in this connection. What Baehr says of it (*Science of Therapeutics*, translated by

*A Manual of Pharmacodynamics. By Richard Hughes, L. R. C. P. Ed. Third Edition 1876, page 315.

Hempel, Vol. I, p. 515) is certainly true. "Hartman's assertion that peritonitis cannot be cured without aconite, seems to us more applicable to bryonia. It comes into play at the most decisive period in the development of the disease, namely when we desire to remove the effused fluid as soon as possible . . . . In comparing the second stage of peritonitis with the pathogenesis of bryonia, we shall find that, in the majority of cases, this remedy is indicated by its physiological effects upon the healthy. It is almost certain that, under the influence of bryonia, the exudation is reabsorbed without causing any further derangement; hence, that no suppuration will take place. But the medicine should be used consistently; we cannot expect to obtain results in a day that can only be obtained in from ten days to a fortnight."

Bryonia.

Apis mellifica is indispensable if pelvic cellulitis complicates the case, and if we desire to abort the tendency to all forms of pelvic abscess. If the effusion is lodged in the meshes of the areolar tissue, the apis will do all that is claimed for bryonia when the serum has been poured out as a consequence of peritonitis. But it needs to be given in a low form, and frequently repeated.

Apis mellifica.

For the best of clinical reasons I have great confidence in the internal administration of terebinth in puerperal peritonitis; and likewise also in post-puerperal pelvic peritonitis. In its effects upon the urinary organs it is closely related to cantharis, being also possessed of a wonderful influence upon the serous membranes. It is adapted to the relief of such typhoid and hæmorrhagic states as are met with in typhlitis and dysentery; and is useful in peri-cystitis also. In the form of pelvic peritonitis which is more or less complicated with cellulitis, occuring in weak and adynamic conditions of the system, more especially if there is pachy-peritonitis with hæmatocele, it is one of our very best remedies. I generally prescribe it in the second decimal trituration.

Terebinth.

When the attack arises from a metastasis of rheumatic inflammation directly to the peritoneum, it has sometimes been unwittingly cured by bryonia, belladonna, rhus tox., hamamelis, colocynth, and macrotin. Of late I have given the first, and sometimes the second decimal trituration

The salicylate of soda.

of the salicylate of soda in some of these cases with very decided benefit. It is indicated for the relief of the intra-pelvic pain and distress, especially when it is of a neuralgic or rheumatic character; but the more acute the case, and the more decided the diminution in the quantity of the urine secreted, and the absolute increase in the proportion of uric acid contained in the urine, the better the indication.

Macrotin.

There are three general indications for the use of macrotin in this disease, (1) the possible rheumatic character of the lesion; (2) the disposition to implicate the spinal muscles and ligaments indirectly, and (3) the nervous, and mental symptoms. This remedy has been extolled in a loose way as a kind of specific for rheumatic metritis, and for uterine neuralgia. These alleged cures, however, are lacking in the essential elements of diagnosis, and, considering the greater relative frequency of pelvi-peritonitis, it is more than possible that the results obtained by macrotin should rather be credited to its curative influence upon rheumatic peritonitis.

Do. in rheumatic peritonitis.

It is not always easy to distinguish spinal irritation from a painful condition of the spinal muscles that is very generally known as myalgia; but, it is necessary to do so, in order to obtain a clear indication for macrotin in pelvi-peritonitis. For this remedy is not called for in the former case, while it certainly is in the latter. This indication is confirmed by the occurrence of other reflex rheumatic pains, as for example, pleurodynia, intercostal rheumatism, the infra-mammary pain, and the pains which in chronic cases are located in the left side.

Do. in peritonitis with spinal myalgia.

I cannot give you a better illustration of the power of macrotin to control the mental symptoms that sometimes accompany this disease than to cite the principal details of a case which I have already published in Jousset's Clinical Medicine. This is one of a number of similar cases in which this remedy has benefited my patients and brought me no little reputation.

Do. for the mental symptoms in.

Case.—Mrs. ——. came to me from Baltimore in 1876. She had been ill for four years, or since the birth of her last and only living child. Her condition was really deplorable. The menses

were regular, but scanty; there was much intra-pelvic pain and distress, spinal myalgia, and sleeplessness with a complete loss of appetite. Mentally she was on the verge of insanity; nothing on earth interested her; her lovely boy, her sister, her friends, society, and the church were all very distasteful. She could not read or think with any diversion or satisfaction, and she became emaciated and wretched.

She had treatment from both and from all schools of medical practice; had worn pessaries, and had passed through the purgatory of leeching and blistering, starvation and hydropathy, but without being benefitted in the least. Locally there was an extensive abrasion of the cervix uteri to which I applied the oleaginous collodion. She was of a rheumatic diathesis, which, with the character of the pelvic and spinal suffering, and of the mental symptoms, indicated macrotin. She took this remedy, and this only, in the third decimal trituration. In a short time she began to improve, and in a few weeks was quite well again. Three years have now passed (1880) and there has been no return of the old trouble. She has gained in flesh, is rosy and hearty, and the centre of attraction for a large circle of friends.

[At his sub-clinic on Friday October 15th, 1880, Prof. Ludlam showed the class three cases of pelvi-peritonitis which were in some respects remarkable. In the first of these, the patient, aged 35 years, the mother of five children, the youngest of which was five years old, complained of severe pelvic pains which she has had since her last labor. Her puerperal history was very indefinite. The pain is limited to the right half of the pelvis and to the region of the umbilicus, but disappears from both localities upon her lying down. In searching for the cause of this relief by the change of posture, it was explained as follows: When she is standing the uterus is prolapsed and drags upon its peritoneal supports, or in other words, upon the so-called uterine ligaments, consequently the inflamed membrane is put upon the stretch. But, when she lies upon her back, as was demonstrated to the class, the womb recedes of itself and its ligaments are relaxed.

Case.

Besides, when she stands erect, sits, or walks about, there is a hernial protrusion at the umbilicus, which causes the pain in that locality. When she lies upon her back, the hernia being a small one disappears of itself, and the pain along with it.

In the second case, there was a clinical history of partial stenosis of the cervix uteri and consequent dysmenorrhœa, for which

the patient had been treated surgically by incision three years before. After this operation she had suffered from an attack of peri-uterine inflammation from which she has never entirely recovered. For two years she has had a form of menstrual peritonitis. Of late, however, her symptoms have changed and she now complains of a burning pain in the vagina with great tenderness, which prevents the introduction of the speculum. On visual inspection the vagina was found to be the seat of a diffuse and very violent inflammation of a non-specific character. The peculiarity of this consisted in the fact, that the vaginitis was consecutive upon the pelvic peritonitis, and that she had never had it before.

Case.

In the third case there was an evident complication of pelvic cellulitis and a laceration of the cervix with the pelvic peritonitis. The patient also had rheumatism of the left ankle-joint. The case had been under careful observation for some weeks, and there was no doubt about the diagnosis. The form of the laceration, which was shown to the class, is very well illustrated in the accompanying figure.

Case.

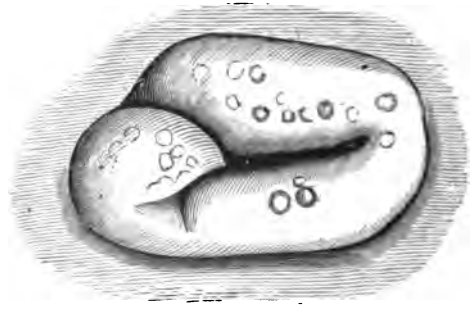


FIG. 35. Bifid laceration of the cervix.

Prof. L. said that the chief obstacle to the cure in this case was that, while the circum-uterine inflammation, more especially the peritonitis continued, an operation for the laceration of the cervix was contra-indicated.]

LECTURE XXIV.

PELVIC CELLULITIS.—PELVIC ABSCESS.

Pelvic cellulitis. *Case.*—The congestive stage—the stage of effusion—ditto of resolution—ditto of suppuration. Causes. Coincident diseases. Diagnosis. Sequelæ.

Of late years the physiology and pathology of the pelvic areolar tissue has attained a great and merited degree of importance. The whole theory of uterine displacements and of uterine inflammation is concerned in its clinical history. From the day in which Dr. Priestly's researches and dissections were published (1854), until Dr. Emmett's book was issued last year (1879), uterine pathology has undergone a complete revolution, and what was vaguely styled the "loose cellular tissue" has received such consideration as has not been bestowed upon any other tissue within the pelvis. I shall therefore, take especial pains to give you as correct an idea as possible of the subject of pelvic cellulitis, of which you have already seen a number of cases in my clinic.

The subject is a difficult one, more especially because the structure involved is outside of the generative intestine, and is therefore, only indirectly accessible; because this same areolar tissue is greatly modified by pregnancy, is more likely than almost any other structure to be injured during labor, and also because it has a puerperal history with sequelæ that are very peculiar and persistent. Another characteristic which complicates the study, and the treatment of pelvic cellulitis is the tendency to the formation of abscesses.

PELVIC CELLULITIS.—PERI-METRITIS.—PELVIC ABSCESS.

Case.—Mrs. S——, æt, 30, was delivered by forceps of a dead child twelve weeks ago. Following this her physician said that she had puerperal fever. When she entered the hospital she complained of acute pain in the right iliac region, which was aggravated by touch and motion. There was a tumor (for which she had been blistered) in the right iliac fossa, which was of

irregular outline, and could be very plainly felt above the brim of the pelvis. The corresponding limb was retracted. She could not lie upon that side. She had diarrhœa, with black, shiny stools. She complained of cramps in the uterine region on going to stool. Burning during micturition. Emaciation. Pulse 85, and weak. Tongue coated. Yesterday she commenced to have a pretty free discharge of pus from the uterus, and her symptoms are already somewhat relieved. Until then the vagina was hot, dry and very sensitive. The tumor could be recognized by the "touch," located at the right side of the cervix uteri in the roof of the vagina.

Synonyms.—This disease has received several names which only serve to confuse the mind. Thus, among its synonyms are pelvic cellulitis, peri-uterine cellulitis, perimetritis, parametritis, pelvic abscess, intra-pelvic abscess, abscess of the uterus, inflammation and abscess of the broad ligaments. The term peri-uterine cellulitis, proposed by Dr. Thomas, as locating the lesion more definitely, and implying that this is one of the sequelæ of uterine disease or accident, is perhaps least objectionable.

The pelvic cellular tissue.

You are aware that the pelvis is lined with a fascia which is reflected over the muscles contained within it, and over the pelvic organs also, and which serves to shield, to strengthen and to separate them. Now between the layers of this pelvic fascia, when they come into contact with each other, and also between the fascia and the organ which it covers or separates from another organ, there is interposed a quantity of loose cellular tissue. This tissue is particularly abundant between the folds of the broad ligaments, about the abdominal portion of the uterine cervix, between the uterus and the bladder, about the urethra, in the recto-vaginal septum, and in the recto-sacral space. There is considerable discrepancy among authors concerning the presence of this areolar tissue between the peritoneum and the uterus itself, a majority insisting that there is so little of it there as scarcely to be worth mentioning. Hence there are those physicians who insist that peri-uterine cellulitis proper is a kind of mythical disorder—one of the refinements of uterine diagnosis.

But I apprehend that there is no real conflict between the authority of the anatomist on this point, and the experience of the gynæcologist, when he finds that attacks of inflammation are

sometimes seated in the areolar tissue about the uterus. For this form of the disease is especially incident to the puerperal state. And when we remember the changes that take place in the other uterine textures in consequence of conception, I can see no reason to doubt that there is, during pregnancy, a corresponding growth and development of its cellular tissue also. Authors have not, in so far as I am aware, said anything on this subject. Nevertheless it may be true that this particular tissue, like the muscular coat of the womb, is produced and then removed to answer certain very important physiological ends; and that this consecutive development and decline constitute a predisposing cause of cellulitis as one of the contingents of labor, whether premature or at term. At any rate, I give you the hint as one that contains something practical.

An important suggestion.

Peri-uterine cellulitis, therefore, is an inflammation of the connective tissue about the uterus and within the pelvis. As I have said, when it is not traumatic, it rarely occurs except as a sequel or contingent of lying-in. Gestation and labor are, therefore, its most powerful predisponents. The disease is less frequent than puerperal peritonitis and phlebitis, but is probably more common than many practitioners have supposed. (*Exit the patient.*)

Frequency of.

Authors divide this disease into three, but I shall specify four stages. The first is that of congestion, the second of effusion, the third of absorption or resolution, and the fourth of suppuration. I add the stage of resolution, because I believe that appropriate treatment will sometimes enable us to cure our patients without allowing the disease to pass on to the suppurative stage.

Its four stages.

The First or Congestive Stage.—The congestion may set in abruptly a few hours after delivery, or it may be delayed until some days or even weeks have passed, and then may come on insidiously. The symptoms are such as mark the onset of inflammatory fever. There is a more or less decided chill, which may or may not be repeated. If the chill is lacking, it will be substituted by rigors, which are sometimes painful and persistent in ratio with the exhausted and debilitated condition of the patient. The febrile re-action is very decided. The heat of the skin is often intense, the pulse full, strong and

Symptoms of.

rapid, or, in weak subjects, quick, frequent and irritable. The tongue is furred, and not unfrequently there is nausea with disposition to emesis.

These symptoms are accompanied, or followed almost immediately, by intra-pelvic pain and distress. The location of this pain varies with the seat of the inflammation. If the cellular tissue between the broad ligaments is attacked, the pain will be referred to the corresponding side of the pelvis, in which it will be deep-seated and very severe. If the same tissue surrounding the uterine neck is the seat of the lesion, the suffering will be in the upper part of the vagina, and contact with this organ, even by the exercise of the most delicate "touch," will be insupportable. If the peritoneum is also inflamed, the pain will be acute and lancinating in character. Most of the pain experienced, however, is ascribed to the pressure of the effused fluid (which has escaped into this tissue) against the neighboring organs. In many cases the bladder, and in others the rectum, are thus mechanically pressed upon, giving rise to strangury and tenesmus, which are not relieved by the usual remedies. Very often, more especially after the tumor caused by the effused serum has been formed, the pain is described as throbbing and paroxysmal. It is usually not diffuse, but local and circumscribed in its extent. In acute cases the congestive stage is limited to a few hours.

Intra-pelvic pain.

The Second or Stage of Effusion.— As in peritonitis or pleurisy, the period of effusion generally follows in pretty rapid succession. The serum escapes from the capillaries into the meshes of the areolar tissue, infiltrates it, and solidifies as if it were out of the body, or just as it does in the pulmonary air-cells when it causes a hepatized state of the lung in pneumonia. The resulting tumor varies in its shape and size according to circumstances. If the space between the fasciæ is limited and of a particular shape, the "swelling" cannot be larger, and must be of the same configuration. It grows rapidly until it has attained its maximum size, becoming more and more firm and dense, or perhaps softer, in its structure. If the patient is in a weak, adynamic state, however, the clot will not be firm, and the tumor will remain flaccid, or become softer, in some such manner as it does in pelvic hæmatocele. In many

Formation of the tumor.

examples the tumor is exquisitely tender to the touch, but again it is not so.

In the majority of cases of peri-uterine cellulitis, the tumefaction is situated in the lateral portion of the pelvis. You may find it in one or the other of the iliac regions. And its presence is best made out by means of the bi-manual exploration. The index finger of the right hand being introduced into the vagina for the purpose of examining the os and cervix uteri, as well as the cul-de-sac of Douglas, the iliac region is examined at the same time through the abdominal parietes with the other hand. Between the two the size, shape and consistence of the tumor, whether it be above the pelvic brim or below it, can be pretty accurately determined. If there are any remaining doubts, the finger may be introduced into the rectum, and so much of the posterior and lateral walls of the womb as are within reach may also be examined. As a rule the uterus is fixed, or but slightly movable.

Location of.

One of the first symptoms indicative of this effusion is a local heat, swelling and tenderness of the vagina, which is apt to be felt at one side of the canal, and limited to one spot. Later the vaginal wall covering the tumor becomes thickened and indurated. It may, or may not, remain sensitive.

Symptoms.

If the tumor develops in either iliac fossa, the corresponding limb will usually, but not always, be flexed. This retraction of the thigh relieves the pain by relaxing the muscles in the immediate vicinity of the tumor. It is involuntary, and more or less complaint will be made when the leg is distended.

In puerperal women the milk and lochia are usually suppressed. This complicates the case, and implicates the nervous system more especially. Delirium, insomnia, unrest, spasms, convulsions, and even mania have followed from this cause. In rarer cases there is retention of urine, and still more rarely an almost total suppression thereof. Vomiting is a frequent accompaniment of pelvic cellulitis, possibly, as Dr. Atthill suggests, because of the endo-metritis which generally coexists.

Incidental symptoms.

This stage of effusion, with its resulting tumor, may continue unchanged for a variable period ranging from one week to a

month. There is no fixed limit to its duration. Sometimes, in consequence of a relapse, the congestion is again established, and the resulting effusion following, there is an increased pouring out of serum and a marked and sudden growth of the tumor. Again the inflammation being passive, the tumor becomes insensibly larger. Or it may develop in the right iliac fossa, and when some considerable time has elapsed, commence to grow and finally attain a marked development in the left one. Successive tumors of this kind occurring in the same locality, are by no means rare.

Course and duration.

The Third Stage, or that of Resolution.—The stage of absorption, or of resolution, is that in which the tumor may remain for some time at a stand-still, and finally pass away without ending in suppuration. As you will infer, if for any reason, as for example because of a depraved cachexia, great debility from previous illness, inanition or excessive medication, the patients' vitality is very much reduced, the resolution of the swelling would be impossible, and suppuration would almost inevitably follow. Under the circumstances, therefore, in which we are likely to find these patients, this third stage of the disease will frequently be lacking altogether.

May be wanting.

But when her strength has previously been good, her gestation and labor have been accomplished without too great a draught upon her nutritive and nervous resources; when she has been well nursed and properly fed, medicated and otherwise cared for; and above all when there is no prevalent epidemic erysipelas, or puerperal disorder, we may observe the tumor gradually and quietly resolving itself away under appropriate treatment. If the swelling consists of effused serum, and not of coagulable lymph, it may be more readily absorbed.

Conditions that promote resolution.

The Fourth, or Suppurative Stage.—If left to itself, however, or mal-treated, and in a majority of cases almost inevitably, the tendency of this disease is to terminate in suppuration. With the commencement of this process the symptoms vary as in the case of abscesses located elsewhere. If the pain and tenderness have subsided, they are very apt to return. The tumor may become extremely sensitive again, and motion, or the pressure upon the tumor caused by an attempt

Symptoms of.

to stand upon the feet, to urinate, or while at stool, may occasion extreme suffering. The limb cannot be extended. The patient's body is flexed in the bed. A species of hectic fever, of a remittent type, sets in. There are rigors alternating with great heat, and evening exacerbations of fever, which sometimes mislead the physician. When she sleeps there is a profuse and exhausting perspiration, as in the worst cases of phthisis. The face and skin are pale. The countenance assumes the expression which surgeons recognize as characterizing that pus has been formed somewhere in the body, and is awaiting its discharge. The pulse continues rapid, although it has lost in strength. There is anorexia and great debility, with or without diarrhœa.

Accompanying hectic.

Even although the tumor may have been firm and like fibro-cartilage, or almost like scirrhus, to the touch, it now begins to soften. This softening may be recognized either by abdominal or vaginal palpation, or by both combined. It may occur gradually, or develop itself more rapidly. The weaker the patient the less the resistance to this process, and the more speedy the resulting fluctuation. This fluctuation is in most cases observable at the upper part of the vagina at one side of, or directly behind the cervix uteri, in the posterior cul-de-sac. "From some peculiar arrangement of the layers of the pelvic fasciæ, when pus is formed in the course of a pelvic cellulitis, occurring in the upper half of the true cavity of the pelvis—and this, you must remember, is the most frequent seat of the disease—it has a tendency always to point in this direction and to find an exit for itself, either at the lower base of the broad ligaments, or in the posterior cul-de-sac of the vault of the vagina; and it is at these spots, where the fascial layer seems to be unusually thin and weak, that the feeling of fluctuation is ordinarily first detected."*

Seat of the fluctuation.

Now this fluctuation may be due to the presence of effused liquor sanguinis, or of pus. But if the disease has persisted, as in the case before us, for a considerable time, and been attended by the inflammatory fever, followed by the hectic, the copious perspiration after sleeping, and the frequent, irritable pulse, you may be reasonably assured of the presence of pus in the tumor.

Diagnosis of the presence of pus.

*Clinical Lectures on the Diseases of Women, by Sir J. Y. Simpson. D. Appleton & Co., New York, 1872, page 72.

Concerning the means of escape for the pus, when it has been formed, it is important to remember that it may extemporize an outlet for itself through the bladder, the uterus, the vagina, or the rectum. If it forms at the superior strait, it may gravitate, and, running down along the course of the muscles, may pass beneath the pelvic fasciæ, and escape with the femoral vessels, so as to point near the groin. Sometimes it passes backwards through the great ischiatic foramen, and forms an abscess in the region of the hip; or it may even point at the great trochanter of the thigh bone. In rare instances it perforates both the uterus and the bladder, and leaves a fistula between them. Still more rarely, perhaps, it discharges into the cavity of the peritoneum. In seventy cases of puerperal pelvic cellulitis, Dr. McClintock, of Dublin,* found that thirty-seven ended with suppuration and the discharge of pus. Of these twenty-four were opened externally, or burst, of which twenty were discharged from the iliac region, two above the pubis, one in the inguinal region, and one beside the anus. Six others found an outlet through the vagina, five through the anus, and two burst into the bladder.

Its varied means of escape.

With respect to the essential nature of this disorder, I have long held and taught the idea set forth by Virchow, that, in reality, it is a species of erysipelas. Its clinical history, its epidemic prevalence, and its special therapeutics, correspond with those of erysipelas, more closely than with any other disorder. It is quite probable that many cases of this disease have been mistaken for puerperal peritonitis, and that the propagation of this latter malady by certain fomites is really to be explained upon the theory of the inoculability of the erysipelatous poison as in the case of phlegmonous erysipelas.

Essential nature of pelvic cellulitis.

Is probably allied to erysipelas.

Causes.—I have already reminded you that pelvic cellulitis is one of the contingencies of lying-in. It may follow in consequence of injuries sustained in natural unassisted labor. One of its most frequent causes is the traumatic injury of the cervix uteri by pressure of the presenting part, especially of the head, during delivery. In abortion

Parturition.

* Clinical Memoirs on the Diseases of Women.

it may follow a similar injury to the neck of the womb. For this reason it is comparatively frequent where abortion has been induced by means that are almost necessarily harmful. Women have sometimes brought it on themselves in this way.

A sequel to dystocia.

Puerperal cellulitis is one of the sequelæ of instrumental delivery, more especially when the resort to the forceps and other instruments has been unwarrantably delayed, when they have been ignorantly or carelessly used, and when the patient has not received the proper attention and nursing after their employment. These causes are more efficient in proportion with the debilitated and depraved condition of the patient's system, and also with her proneness to scrofulosis, phthisis, and even to certain acute diseases, as, for example, pneumonia and erysipelas.

A contingent of uterine surgery.

The non-puerperal cellulitis may result from the forcible introduction, or the prolonged retention, of the sound and the sponge or other tents. The wearing of intra-uterine pessaries, even the best of them, is very apt to induce it. Incision of the cervix uteri, whether for the cure of obstructive dysmenorrhœa, for the removal or arrest of development of fibroids, or even for the arrest of uterine hæmorrhage, is not an infrequent cause. It has followed amputation of the cervix, ovariotomy, the ligation of polypi, the excision of hæmorrhoidal tumors, the operation for vesico- and recto-vaginal fistulæ, and also that for ruptured perineum. It has also resulted from the use of very severe escharotics, as the potassa cum calce; the wearing of vaginal pessaries for a long time without removal; excessive and too forcible coitus; and the extension of corporeal metritis and ovaritis to the areolar tissue about the uterus, and between the layers of the broad ligaments.

Coincident Diseases.— Peri-uterine cellulitis rarely runs its whole course without being more or less complicated with other diseases. This is true, indeed, of most of the ailments for which you will be called upon to prescribe. The lines that separate pneumonia from pleurisy, or rheumatism from neuralgia, for example, are much more distinct and clear in the books than you will find them to be at the bedside. So you will most frequently observe that this form of cellulitis is more or less confounded with

pelvi-peritonitis, ovaritis, and endometritis, in which case its clinical history and symptoms will be modified accordingly.

Diagnosis. — This fact complicates its diagnosis. If you are not more skillful than your predecessors, you will sometimes be puzzled to differentiate between pelvic peritonitis, pelvic hæmotocele, uterine fibroids and pelvic cellulitis. Let me beg your earnest attention therefore, while I tell you how you may know them apart.

Sometimes very difficult.

The pelvic areolar tissue being between the layers of the broad ligaments, and beneath the outer coat of the uterus, both of which structures are composed of reflections of peritoneum, it may be supposed that in case of inflammation of either of them, the symptoms must necessarily be very distinct, not to say pathognomonic, in order to be recognized. As a rule, the pain in the first stage, prior to effusion, is less acute in cellulitis than in pelvi-peritonitis. In the former, if the exudation of the liquor sanguinis is copious, the suffering is increased by it; while in the latter, as in pleurisy or synovitis, the effusion is followed by a mitigation, if not by an entire remission of pain; which may return, but which, from that time forward, is less acute and altogether changed in its character.

From pelvi-peritonitis.

In most cases of cellulitis the tenderness, pain and local heat are referred to and commence in the iliac fossæ. The same is true of puerperal ovaritis, in which the peritoneal investment of the ovary becomes inflamed during lying-in. But in the former the pain does not change its location, nor does it incline to become diffused over the abdomen, both of which symptoms are proper to ovaritis occurring in puerperal women.

I have copied Dr. Thomas' table, giving the differential signs between peri-uterine cellulitis and pelvi-peritonitis, upon the blackboard :*

PERI-UTERINE CELLULITIS.	PELVIC PERITONITIS.
1. Tumor easily reached, generally found to one side of the uterus, and may be felt above the pelvic brim ;	1. Tumor, if discoverable, very high, only in vaginal cul-de-sac, does not extend above the superior strait ;
2. Tendency to suppuration ;	2. Suppuration less common ;
3. Abdominal tenderness chiefly over one iliac fossa ;	3. Abdominal tenderness excessive above brim of the pelvis ;

* A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, M.D. etc. Third edition, 1872, page 461.

PERI-UTERINE CELLULITIS.	PELVIC PERITONITIS.
4. Tumefaction generally noticed laterally in the pelvis;	4. Generally noticed near or upon the median line;
5. Tendency to monthly relapses not marked;	5. Tendency to relapse every month very marked;
6. Retraction of thigh not rare;	6. Retraction of thigh rarely occurs;
7. Pain severe and steady;	7. Pain excessive and often paroxysmal;
8. Facies not much altered;	8. Facies very anxious;
9. Nausea and vomiting not excessive;	9. Nausea and vomiting often excessive;
10. Does not necessarily displace the uterus;	10. Displaces the uterus as a rule;
11. Uterus fixed to a limited extent;	11. Uterus immovable on all sides.

The statement of some of these signs needs to be qualified. If, for example, the inflammation in cellulitis was always limited to the broad ligament on either side, the tumor could invariably be reached without difficulty by downward pressure in the corresponding iliac fossa. But the fact is that it has no such constant seat. It may happen that the connective tissue surrounding the inferior segment of the womb, or about the cervix uteri, shall be inflamed, while that which separates the layers of the broad ligament escapes altogether. In this case we should fail to find the tumor at the superior strait, but might detect it per vaginam or by the rectum. In exceptional instances of pelvic cellulitis, it is impossible to locate the tumor at all.

Peritonitis is more directly related to disorders of menstruation, and to the return of the monthly cycle, than cellulitis. The commencement and brief continuance of the peritoneal pain in the median line, and the absence of a marked tendency to suppuration, will generally enable you to separate this disease from pelvic cellulitis. Owing to the extension of the inflammation in this form of peritonitis, the induration, if there is any, is not always located in the median line, as the pain was at the beginning of the attack. When gonorrhœal, or, indeed, ordinary inflammation, extends from the uterine cavity through the Fallopian tubes, and invades the abdomen and the pelvis, it is more likely to give rise to peritonitis than to cellulitis. You should not forget that, while pelvi-peritonitis is quite a common affection with non-puerperal women, pelvic cellulitis almost never occurs excepting among those who have recently been confined.

It must be acknowledged, however, that the lines which sepa-

rate these two diseases are not always distinct. For, whether it be due to the fact that the textures involved are contiguous, and that these lesions frequently co-exist, or that our present means of differentiation are imperfect, it remains that they may be combined without our knowing it, and that we are liable occasionally to mistake one for the other.

They may co-exist.

Although pelvic cellulitis and pelvic hæmatocele are both of them most frequent after delivery, yet the conditions of the patient's general system upon which they are prone to occur are very different. Thus, pelvic hæmatocele takes place in consequence of a weak, adynamic state in which the blood has become of bad quality by extreme losses, as in uterine hæmorrhage, or from the rupture of one or more small vessels during labor. It is also incident to the hæmorrhagic diathesis. Neither of these conditions pertain to the etiology of pelvic cellulitis.

From pelvic hæmatocele.

In pelvic hæmatocele the formation of the tumor is not preceded by local congestion, and symptoms proper to the first stage of an acute inflammation, as in cellulitis. It comes on suddenly, and is accompanied by signs of prostration, sinking and collapse. The tumor in hæmatocele varies in its consistence, but is never hard and ligneous to the feel, like that of cellulitis. The more impoverished the blood, the softer the tumor. In cellulitis, the tendency toward suppuration causes the swelling to become softer as it grows older. The opposite change occurs in the hæmatomatous tumor, which gradually becomes harder than it was originally.

Uterine fibroids come on insidiously and grow very slowly. Until they occasion trouble mechanically they are neither sensitive nor do they cause pain in the womb or the adjacent parts. If sub-mucous, or interstitial, they are characterized by the frequent occurrence of metrorrhagia, and inter-periodic hæmorrhage, which is not a contingent of cellulitis. The tumor, in case of fibroid, is firm and not œdematous to the feel, and there is no tendency in it toward suppuration. Fibroids do not render the uterus immovable, as the tumor in cellulitis often does.

From uterine fibroids.

In case, however, that you can not otherwise decide as to the nature of the pelvic tumor, you may pass the exploring-needle into

it from its vaginal surface. If you bring away a drop or two of pus upon the instrument, it is a positive sign of abscess; if blood only, and that of a dark, purplish color, it may be a case of hæmatocele; and if no specimen of any kind of abnormal product is obtained, the negative symptom will satisfy you that it is probably a case of uterine fibroid. This is an excellent means of diagnosis and may really be a great blessing in your hands. For the safety of your patient, as well as of your own reputation, will depend upon your skill in diagnosis.

Sequelæ.—The most common sequel of this form of cellulitis is pelvic abscess. It often happens that the evacuation of the tumor a single time will not suffice. In many cases these abscesses continue to discharge for months and even for years. The accompanying symptoms vary with the location of the tumor and its means of outlet. Incredible quantities of pus are poured out, and the patient's strength and vitality are so undermined that her health may be ruined thereby.

Relapsing abscess.

Another result of this disease, which is frequently entailed upon those who have had it, is sterility. It is not unusual for a woman to lose her first-born in consequence of a difficult labor, to have cellulitis in child-bed, and to recover her health in every respect, except that in future she remains barren. In this case the cellular inflammation has caused the function of reproduction to be suspended. This frequently happens as an indirect result of criminal abortion.

Sterility.

Menstruation is sometimes most seriously implicated, either because of ovarian complications, with cellulitis, or from some partial or complete obstruction of the Fallopian tube or of the cervix uteri.

Menstrual disorders.

Other sequelæ include certain uterine displacements, and the vesico- or recto-vaginal fistulæ which are sometimes caused by sloughing of the septa between the bladder, or the bowels and the vagina.

Prognosis.—The prognosis should be cautiously made. If it is possible to secure the resolution of the tumor, and to prevent serious relapses, the patient will probably recover. Much will depend, however, upon the general strength and vitality. If these shall be very much reduced, the case is less promising. So also with the

The general condition and concurrent disease.

chronic and incurable disorders of digestion with which it may be complicated. But you should not despair of curing even the worst attack, provided the patient is not already moribund, and you can supply certain physiological requisites for her recovery.

If the disease is epidemic, the prospects are less favorable. If it occurs in the winter or spring months, during stormy and inclement weather, when erysipelas, diphtheria, scarlatina, or dysentery, and kindred diseases are prevalent, it subtracts so much from the chances of recovery. Those cases which arise from traumatic injury are generally more grave than such as are referable to more ordinary causes.

The epidemic tendency.

If the disease invades other organs, as when the pus that has formed finds an outlet through the uterus or the bladder, it may prove fatal through the serious complications that follow. If the abscess discharges into the cavity of the abdomen, the patient will be very apt to die suddenly.

The janitor's bell, which is as inevitable as one's shadow, has overtaken us. I will speak of the treatment of pelvic cellulitis at my next lecture.

LECTURE XXV

PELVIC CELLULITIS. (CONTINUED.)

Pelvic cellulitis, *continued*; Prognosis. *Case*; the Sequelæ and Treatment. *Case.*

Case.—Mrs. ——, is married, and the mother of two children, both of whom are dead. She had an abortion at the thrid month, now six months ago, and has not been well since. For many years she has been subject to leucorrhœa, and while an inmate of St. Luke's Hospital, in New York, she says she had blisters applied to the region of the ovaries for the cure of that infirmity. The menses are copious, returning every three weeks, and continuing for from four to six days.

A local examination in the sub-class room revealed great tenderness in the ovarian and pubic regions, the cervix was somewhat swollen, and about the os uteri it was highly inflamed. In the left lateral cul-de-sac, the finger detected a placque of inflamed areolar tissue which has been the seat of an extensive infiltration, and which has doubtless existed for a long time. There was no laceration of the cervix uteri.

Next to the differential diagnosis of this disease, its prognosis is the most difficult and imperfect. In a given case the result will vary with the cause, the complicating lesions, the condition of the menstrual function, the treatment to which the patient has formerly been subjected, her puerperal experience, and the dyscrasia upon which the cellulitis has been engrafted.

Qualifying conditions.

1. *The cause.*—Cases which date from the lying-in, and which have developed from injuries received during labor, are very tedious and difficult of cure. Puerperal traumatism is a fertile source of pyæmic relapsing pelvic abscess, especially if the mother has failed to nurse her infant, is of the scrofulous or tuberculous habit, or has not been properly cared for in child-bed.

Traumatic causes.

Other forms of peri-uterine traumatism resulting from surgical operations about and within the cervix uteri, the wearing of ill-adjusted pessaries, inveterate constipation, the pressure of uterine

fibroids, stone in the bladder, and sexual abuse, are followed by forms of cellulitis which are severe and dangerous in proportion with the acuteness of the attack, the nature and more or less constant action of the exciting cause, and the physical ability of the patient to survive the effects.

In paludal districts.

In miasmatic districts, and in tropical climates, where bilious disorders abound, there are cases of pelvic cellulitis that depend indirectly upon a derangement of the portal circulation. While the hæmorrhoidal and the ovarian veins are gorged with blood from this cause, a cure of the concurrent cellulitis is not to be expected. Some of these cases will get well merely from a change of climate.

In epidemics.

Certain epidemic causes affecting women in child-bed, leave their impress upon this form of post-puerperal inflammation. If a woman has had either erysipelas or scarlatina, peritonitis or phlebitis, septicæmia or pyæmia during the lying-in, an inflammation of the pelvic areolar tissue that may be engrafted upon her, will partake of its characteristics, and the prognosis will vary accordingly.

2. *The complicating lesions.*—The most important of these are pelvic peritonitis, hæmatocele, hæmorrhoids, uterine fibroids, ovaritis, cystitis, urethritis, vaginitis, laceration and ulceration of the cervix uteri, ulceration of the rectum, chronic metritis and uræmia.

With peritonitis.

Peritonitis holds about the same relation to cellulitis that pleurisy does to pneumonia. Either may precede the other in the order of its coming, but they often and indeed usually co-exist. In a serious case, therefore, this fact should be borne in mind, for without it a careful prognosis would be impossible. The suppurative form of peritonitis, especially if it is of pyæmic origin, is a serious and dangerous complication of pelvic cellulitis. If, however, it sets in, in the puerperal state, when more than a fortnight has elapsed since the birth of the child, it is likely to run a tedious course and finally to terminate in recovery. Tubercular peritonitis is a complication that is necessarily of a fatal character.

If the peritonitis is ovarian, the lesion will be apt to develop into an abscess, that may discharge itself through the Fallopian tube, or the rectum, or possibility through the abdominal parietes, or

there will almost certainly be a resulting disorder of menstruation of an intractable kind.

The complication of peritonitis with cellulitis is less likely to be rapidly fatal than to become chronic, and is exceedingly troublesome on account of the persisting lesion of structure, or of function, in either or all of the pelvic organs. This is the root and the foundation of the uterine cachexia. It is as true now as it was fifteen years ago, when Bernutz, in speaking of pelvic peritonitis, insisted that "the future knowledge of uterine pathology is as certainly subordinate to an acquaintance with this affection as pulmonary pathology is to a complete knowledge of inflammation of the thoracic serious membrane." Dr. Emmet's recent observations confirm this remarkable exhibition of clinical foresight. For Bernutz really suggested what Emmet has just now developed.

A new version of an old fact.

When pelvic cellulitis, or peri-uterine inflammation of the cellular tissue co-exists with laceration of the cervix, the cure will be difficult. For an operation for the radical cure of the laceration of the cervix is contra-indicated while the cellulitis remains; and the cellulitis is not likely to be cured while the laceration remains.

3. *The condition of the menstrual function.*—Whether we consider the menstrual function as eliminative or not, there is a causative relation between the arrest of the menses, as well as certain changes in the quality of the discharge, and the occurrence of a severe type of pelvic cellulitis. Experience teaches that, when the monthly derangement precedes the local cellulitis, the case is amenable to treatment directed against the first cause of the attack, but not otherwise.

Menstrual disorders and cellulitis.

If the disease began with the resumption of the menses at the close of lactation, it will be very apt to develop into abscess of the broad ligament, and to be rebellious in its character. So also, if it follows the abrupt and premature weaning of the child from any cause, and the consequent reflux of the blood towards the pelvic viscera. I am satisfied that the resumption of the inhibited process of ovulation is a very important factor and complication of this disease in those who have borne children. In a certain proportion

of cases of pelvic cellulitis we cannot foretell the result without weighing these conditions very carefully.

Pelvic cellulitis is sometimes complicated with an intractable menorrhagia. There is no doubt that in many cases of so-called chronic metritis accompanied by copious menstruation, the lesion is really one of peri-uterine cellulitis. In this class of cases the prognosis will hinge upon our ability to control and to cure the excessive flow. But we must not forget that these conditions predispose our patients to pelvic hæmatocele, and also to concurrent peritonitis, under which circumstances the danger is very much increased.

Menorrhagia and cellulitis.

4. *The treatment to which the patient has formerly been subjected.*—A very considerable proportion of the cases of pelvic cellulitis that come to us for advice, have already been cauterized or maltreated in one way or another. Sometimes we know what escharotics have been employed, and sometimes not. Occasionally the patient is able to give an intelligent account of operations that have been made upon the cervix uteri, and of expedients that have been resorted to for the dilatation of its canal, to change its direction, or to correct some special form of uterine deviations. But oftener she is in the dark about the whole business, and we are left to conjecture what may have been done, from the traces of mischief that remain behind.

Mischievous treatment.

If we know what the peculiar practice of her former physician is, or is very likely to have been, we shall have the key to the case, or at least to its complications. This information will come to us from various sources. For example, in my own practice, having cases that come from all quarters, I have found it necessary to know, through all the books and journals that I can get, just what form of practice is most popular with each and all of our uterine specialists. So that, when a patient comes to me from a prominent gynæcologist in New York, or Philadelphia, or San Francisco, or from some of my neighbors nearer home, my knowledge of their writings, of the work they do, and of their way of doing it, is useful in putting me on my guard, both as to the prognosis and the treatment of pelvic cellulitis and its complications. For these post-gynæcological lesions are not always of a trifling or a transient character; and

A clinical hint.

if we promise to cure the cases upon which they are secondary, as we might reasonably do if they were idiopathic, we shall often fail.

If we remember that there is not a single method of surgical treatment for uterine affections, from the adjustment of a pessary to the operation for laceration of the cervix, which is not capable of causing pelvic cellulitis, or peritonitis, or both of these affections, and that most frequently they are resorted to by physicians, and often by specialists, in an indiscriminate manner, we shall not be likely to forget that the prognosis will depend upon what has been done for these cases before they came into our hands.

5. *Her puerperal experience.*—The form of pelvic cellulitis which results in abscess of the broad ligament, is often of an insidious kind, and may continue for months or years without being suspected or discovered. It is usually the result of pyæmia, and may be complicated with lacerations of the soft parts, that have healed spontaneously, or others that remain, and which can be found upon a very careful inspection. When these traumatic lacerations have healed of themselves and disappeared altogether, and when the patient is unable to give any detailed information concerning her lying-in, it is very difficult to make a careful and reliable prognosis. This is a clinical fact which can be verified in our daily experience, and which furnishes an argument for the necessity of a better knowledge of the puerperal diseases.

Post-puerperal lesions.

When abscess of the broad ligament (which depends upon an inflammation of the cellular tissue between the layers of that ligament), becomes chronic, and relapses frequently, it is almost always complicated with some serious disorder of the menstrual function. Not infrequently the latter furnishes the best criterion of the gravity of the disease, and also the best guide to its treatment. In very exceptional cases this form of abscess, with its periodical discharge, is vicarious of menstruation. There is a class of cases of pelvic cellulitis that occur in women who have borne their children rapidly, who have had but very indifferent attention during their lying-in, and who suffer from it because the parts that are chiefly concerned, more especially the cellular tissue, have not recovered from the effects of one pregnancy before they are precipitated into

With abscess of the broad ligament.

those of another. Under these circumstances, the patient's general strength is so reduced, and the vitality of the intra-pelvic tissues has become so low that the prognosis, in so far, at least, as a radical cure is concerned, will need to be qualified. For this state of things borders upon the uterine cachexia, and is not always curable.

Another form of post-puerperal cellulitis is at the bottom of certain chronic affections of the bladder and urethra. The lesion is a legacy of the puerperal state. It is peri-cystic, and very intractable. In some cases, it has been caused by the use of an unclean catheter during the lying-in; in others, by a careless neglect in allowing the urine to accumulate inordinately, in cases of peritonitis or endo-metritis when, after having urinated naturally for some days, the patient loses the power to do so. The prognosis in these cases is very unpromising and the greatest care and patience are necessary in order to bring about a favorable result. One reason for this lies in the fact that the local cellulitis in the vicinity of the bladder and of the urethra is almost certain to be complicated with a local peritonitis.

With vesical lesions.

6. *The dyscrasia upon which the cellulitis has been engrafted.* —In those women who bear children, and who are of a scrofulous diathesis, there is a great proneness to inflammation of the areolar tissue, and a corresponding exemption from the forms of glandular inflammation to which other scrofulous persons are subject. This is shown in the history of puerperal mammitis, in which, in the great majority of cases, the disease is seated in the inter-lobular, and not in the glandular tissue. With this peculiar predisposition to cellulitis as a post-puerperal inheritance of this class of subjects, we find the same tendency to suppuration and abscess as in scrofulosis.

With scrofula.

The prognosis in pelvic cellulitis, in the case of those who are decidedly scrofulous, will, therefore vary with our ability to recognize and to overcome the effects of this complication. It is only by the greatest care that we can prevent the extension of the disease, its frequent relapse, and the recurrence of abscesses, which drain the patient's strength and drag her into an incurable cachexia, or even into tuberculosis.

The cancerous diathesis develops a form of pelvic cellulitis, in

which the lesion that is outside of the uterus, almost always follows the development of that within its body or cervix, so that a recognition of the cancer through the speculum, or by the touch, will enable us to decide upon the danger and significance of the accompanying cellulitis. When this order of succession is reversed, the fixation of the uterus, and the signs of the cancerous cachexia will clear up the case. We must not forget, however, that the anchorage of the uterus is as common a result of a benign as of a malignant cellulitis.

With cancer.

M. Louis, estimates that in at least one-twentieth of all those who are the subjects of tuberculosis, the lesion is located in the generative organs. There is no doubt that the proportion of women who suffer from genital phthisis, as compared with those who have the disease in some other form, is still larger. Those who die of pelvic peritonitis and of pelvic cellulitis in their chronic form, are almost always the victims of tuberculosis.

With tuberculosis.

So little has been said of this diathesis as a complication of pelvic cellulitis, that the subject deserves especial mention in this connection. We are not warranted in promising a radical cure of this disease in women who are predisposed to phthisis, especially if they have borne many children, or if they have been treated for a considerable time by caustics and the local appliances of the old Bennet school.

Even when tuberculosis does not develop within the pelvic cavity, the existence of chronic cellulitis may indirectly excite the formation of tubercles in the lungs. We may anticipate this result in hereditary phthisis, more particularly if the disease had threatened to develop itself at puberty, and been suspended for a time, either by the establishment of menstruation or the occurrence of pregnancy. In this case the prognosis of cellulitis, at or about the climacteric, would be almost necessarily of a serious character.

Case.—At the request of my friend Dr. W. H. Woodbury, of this city, I recently saw a case of pelvic cellulitis which was quite peculiar. The patient was attacked with cellular inflammation during her lying-in; she was ill for a number of weeks when an abscess formed and discharged itself through the rectum. This discharge continued at short intervals, but, meanwhile, the lesion extended above the superior strait and reached half-way to the umbilicus, where it suppurated and a deep-seated abscess resulted.

A surgeon was called who made two unsuccessful attempts to open this abscess. On a third trial he brought away the pus, but left a wound in the intestine through which for three years past small quantities of fæcal matter have been discharged.

This unfortunate condition had been entailed upon the patient before she came into Dr. Woodbury's hands, and our consultation concerned the prognosis and the propriety of operating for the relief of the post-surgical lesion of the intestine. We concluded however that an operation was not advisable until the inflamed and suppurating areolar tissue about the wound had first been healed. The prognosis turned upon the patient's vigor, her ability to withstand the effects of the prolonged drain, and to overcome the tendency to induration and suppuration. The persevering use of remedies, and the skilful and sensible adjustment of her surroundings may finally cure her; and fit her for the proproposed operation.

Before I speak of the treatment of pelvic cellulitis, the clerk of my clinic will read you the notes of a private case which are given in the patient's own words, and which will serve to show the erratic course of the disease as well as the difficulty of its diagnosis. The patient has entirely recovered her health.

Case.—I am twenty-eight years old, and was confined two years ago with my first and only child. I had enjoyed perfect health during pregnancy, excepting a soreness of one of my breasts, which was occasioned by my own imprudence. My labor began at seven o'clock in the evening, and lasted until one o'clock the next morning, when I was delivered of a dead child. I was under the care of a midwife who gave me some powders, a little wine, and free draughts of cinnamon tea, in order to hasten the pains, which she thought were too slow. From ten P.M. to one o'clock A.M., I had one continued pain, and was finally delivered in the standing posture. The child which, two hours before its birth had been alive, was a very large one.

For some days after delivery I lost a great deal of clotted and very offensive blood. I had pains low in the sides and groins almost immediately, and, five days afterwards was taken with a very severe chill, which was followed by a burning fever. The milk disappeared twenty-four hours later. The flow became yellowish and watery, instead of bloody. A physician was called, who decided that I had puerperal fever. He prescribed medicines to control the fever, and ordered vaginal injections of water containing carbolic acid. At first I seemed to improve, but in a few days the pain in the sides returned. The doctor examined me internally (with a speculum), and said that I had ulcers on the neck of the womb. He burned them twice a week for about

six weeks with the nitrate of silver, but, before they were cured, I was taken one morning with severe cramps in the bowels, which lasted the whole day, and were followed by chills and fever. These cramps came every two or three days, and were very painful. The doctor ordered paregoric, and afterwards laudanum.

In the middle of the following May I was compelled to change my residence. My ride in the carriage was a very painful one, and in a few days I was worse than ever. I began to have a severe and steady pain in the left side of the bowels, low down (iliac region), and the doctor, after another examination, declared me to be threatened with an ovarian tumor and hardening of the left ligament. A greenish ointment was applied over the whole side of the abdomen, and the swelling gradually disappeared, but the ligament (Poupart's) has always remained hard. I took at that time a great deal of iron, and of the iodide of potash, continuing it until my stomach could support it no longer.

In the summer a diarrhœa, with straining, and a pain which continued after each passage, set in. This lasted for many months and left my bowels in a very weak state. I, however, improved gradually, and finally the doctor ordered me to go out of doors. Walking was difficult and painful. In August, while in the open air, I caught a severe cold, and became very sick again, with cramps in the stomach and bowels, vomiting and diarrhœa, with dreadful straining. Another physician was called in counsel, and I was said to be in great danger. They said I had a commencing peritonitis, with great swelling of the womb and general inflammation.

The end of September came before I was able to be up again, but the diarrhœa and pains continued, and made me so weak and wretched that, in the following January, I resolved to try Homœopathy, and accordingly sent for Dr. S****. Within a month the diarrhœa and pain ceased entirely, my appetite returned, and I gained flesh and strength. I felt so much better, indeed, that I accepted a proposition to go to Europe. But toward the middle of March, I began to feel considerable pain in the right side (iliac region), which, until that time, had been well. These pains soon became so severe that I lost all rest. Nothing unnatural could be seen or felt in that locality. The pains were of a tearing character, and extended from the right hip through the groin to the knee. All the pains which I had suffered before were as nothing compared with these. For six weeks I never slept without taking the hydrate of chloral, a very little of which sufficed.

Dr. S. thought my suffering was due to neuralgia, and, believing that the sea-air would most probably cure me, advised me not to abandon the idea of going abroad. Consequently, although I had noticed two small lumps in my left groin, as they were not

painful, I paid no attention to them, and left Chicago for New York in the latter end of May. The journey proved very hurtful, the lumps increased in size, and I was compelled to take to my bed almost immediately after my arrival in New York.

The first of June Dr. F***** came to see me, and after a thorough examination told me that I had no sign of ever having had an ovarian tumor, that the glands were swollen, that my sickness would be tedious, but that, with proper care, he thought I would recover. He did not wish to frighten me by saying that I already had one or more abscesses.

The first of these abscesses was opened by the doctor on the eighth day of June, and the second a week later. Even after they were discharged, moving in the bed was very difficult, and walking quite impossible. The flow of pus continued profusely for about a month, and, having given up the proposed voyage, I was not well enough to return to Chicago until the twelfth day of July. Dr. F. feared lest the journey by rail might determine another abscess, but it did not seem to do as much harm as it had done before.

Arrived at home, I placed myself under the care of Dr. R. Ludlam, and although I still suffered severely at times, I was able to get up and to sit in an arm-chair before the fire. Walking was still difficult, and I abstained from it. The Great Fire came early in October, my house was burned up, and it was expected that it would prostrate me entirely; but in this we were agreeably disappointed, for I never felt so well as for about six months afterwards. One abscess (orifice) closed entirely, and the other almost ceased to discharge.

At the end of March I began to experience a return of the old pains in the left side, which were attributed to my having walked too far in making an excursion down town. I had chills and fever, and the doctor feared that another abscess would form. Three weeks later an abscess pointed just beneath the scar formed by the first one. It was lanced, and discharged, but less freely than before. In all other respects, excepting this local trouble, I am well.

In addition to the symptoms which this patient has detailed so intelligently, others were elicited on physical examination. While this last abscess was forming, the "touch" revealed a swelling of about the size of a pullet's egg in the left vaginal cul-de-sac. This tumor was somewhat soft and very sensitive, so that when I pressed upon it my patient felt inclined to faint. The left border of the uterus and of the cervix were tumefied and puffy, or œdematous. The

Further symptoms.

Douglas' cul-de-sac felt thickened, indurated, and less supple than natural, giving the impression that (probably at the time she experienced the severe tenesmus of the bowel) there had been a retro-uterine tumor also. The vagina was hot and dry. Conjoined manipulation, with pressure in the left iliac fossa, could not be borne. The peri-rectal tissue was also indurated. The bladder and urethra appeared to have escaped implication. Abdominal palpation was not painful. The uterus was forced to the opposite, or right side of the pelvis (right latero-version), a displacement which might explain the prolonged and severe attack of neuralgia from which she had suffered more than a year before.

I must not omit a reference to the fact that in this case the two first abscesses discharged above, and the last one below Poupart's ligament. She is taking calcarea carbonica[3], morning, noon and night.

Treatment. — It has been said that practically it is not a very serious matter to be able to form a correct diagnosis between pelvic cellulitis and the diseases which so closely resemble it. But, gentlemen, I am of a very different opinion. For, suppose a physician should tell you that it was of very little consequence to him whether his patient had the pleurisy or the erysipelas, and that the treatment was substantially the same, no matter what the name of the disease, what would you say of him, and what would be the measure of your trust in him as a skillful and successful practitioner? And if we expect him to discriminate between pleurisy and erysipelas, why should he not also, when it is possible, separate peritonitis from erysipelas? In other words, if there is a difference in the morbid anatomy of inflammation which varies with its seat in particular tissues, and if these differences are always characteristic of the disease in question, why should they not modify the treatment accordingly? Since the symptoms, course, and mode of termination of the diseases are really so unlike, is there any good reason why an inflammation of a serous membrane should be treated as if it were identical with an inflammation of the cellular tissue? I think not.

Inferences based on correct diagnosis.

I know that it is possible, and that there is a strong temptation so to refine and to rarify the symptoms by which diseases are

differentiated as to leave no particular meaning in them, and to exclude a more practical idea of disease and its treatment. But this is the other extreme. We must, and will always have, a theory of the disease which we undertake to cure. And, good or bad, true or false, that theory stands in our minds as a chart of its special pathology. Other things equal, the clearer and more correct our views on the subject, the fuller will be the measure of our success and usefulness; for the physician who knows as definitely and accurately as possible what it is that he wishes to cure, will usually exercise the greatest care in the choice of the means which he employs to that end.

Pathological deductions.

Now our clinical knowledge of the nature, peculiarities, complications, and tendencies of cellulitis enables us, not only to treat the symptoms that are present in the earlier stages of the disease, but to forecast and avert such as might and would otherwise follow. When we are called to a patient like either of those of whom I have spoken, and whose case is the groundwork of these remarks, we must cast about to see if we can not terminate the inflammation, or at least avoid some of its more serious consequences.

And what are the consequences that we wish, if possible, to turn aside? They are (1) to prevent the exudation of the liquor sanguinis, or serum, into the meshes of the intra-pelvic areolar tissue; (2) if it has been already poured out, to promote its absorption and removal, and (3) to prevent suppuration, or abscess. These general indications, therefore, correspond with, and concern the three last stages of pelvic cellulitis, viz.: effusion, resolution and suppuration.

General indications.

If we consider these enquiries in the order named, you will perhaps be able to obtain the best idea of the special therapeutics of pelvic cellulitis. It is as reasonable to suppose that we have remedies which are capable of acting in such a manner upon the congested cellular tissue as to prevent effusion therein, as that we have those which are known to produce a similar effect in the first stage of serous inflammations. There is no reason why, if we begin in season, many cases of threatened cellulitis should not be prevented from progressing beyond the stage of congestion. We ought to be able to cut short

To prevent effusion.

this disease as we sometimes do pleurisy, peritonitis, synovitis, and pneumonia.

Of course, if the patient is peculiarly susceptible, and the internal conditions, as well as the external circumstances, conspire to produce it; and more than all, if we are not called in the incipient stage, or what is equivalent, do not know what disease we are prescribing for, the chances are that effusion will not, or can not be prevented. But our duty is plain. If there are remedies that are capable of removing and relieving the accumulation and stagnation of red and white corpuscles in the vessels of this same connective tissue, and of thus averting the consequences that might follow, we should be prepared to prescribe them intelligently.

Aconite.

The well-known effects of aconite in allaying the fever, in equalizing the circulation, in promoting a critical perspiration, or diuresis, and putting an end to threatened local inflammation, renders it very useful in this stage of the disease. The disease being consecutive to parturition, and allied as it is in most cases to surgical fever, the earlier this remedy is used the better. My own preference is to give it in the second or third decimal attenuation, and, under these particular circumstances, to repeat the dose as often as every fifteen or twenty to thirty minutes.

Arnica.

If the patient suffered extremely during labor, if labor was very prolonged, or if it was completed by instrumental aid, arnica may be used both topically and internally. There is no valid objection against alternating aconite and arnica for the relief of these symptoms. The arnica should, however, be given at longer intervals than the aconite, and, if you prefer it, in a higher potency.

Belladonna.

Belladonna has a specific relation to cellulitis, especially if it is of an erysipelatous type or character. In the outset of the attack it may even be preferable to aconite, providing there is not a very high degree of fever, and the nervous symptoms predominate. Given early and rapidly, it may suffice to avert the inflammation, particularly in the case of nervous and delicate women, with arrest of the lochia, meteorism of the abdomen, throbbing headache, delirium and photophobia. Many experienced and reliable prac-

titioners prescribe aconite and belladonna in alternation for the relief of these symptoms, and are of opinion that, thus given, they do most excellent service. Whether or not the same prompt and desirable results could, in this instance, be obtained by the remedies given singly, my experience will not enable me to decide. Nor will the experience of any single practitioner settle this question for you.

There is another remedy which I believe to be of incalculable service in the incipient stage of puerperal cellulitis, as indeed it is in puerperal peritonitis also. That remedy is the veratrum viride. Those of you who were present at the meeting of the Chicago Academy of Medicine, held last month (February, 1872), will remember the excellent report of Dr. W. H. Burt, of this city, on the physiological and toxical effects of this poison.* Its wonderful power to control and regulate the vascular movements, to equalize the circulation, and, as it were, to stamp out a local congestion that would almost inevitably result in inflammation, is being recognized by physicians of all schools.

Veratrum viride.

My experience, as stated before the Academy during the discussion on Dr. Burt's paper, has satisfied me that this remedy holds some specific relation to the female generative system. Precisely what that relation is, I can not say. But it appears to be especially adapted to the relief and removal of puerperal inflammation. For many years I have been in the habit of prescribing it whenever, in a lying-in woman, the first symptoms of pelvic, or peritoneal congestion show themselves; and, when my directions have been faithfully followed, the result has been most happy. It restores the milk and lochia, when these have been suddenly suppressed, quiets the nervous perturbation, relieves the tympanites and the tenesmus, whether vesical or rectal, and frequently cuts short the attack. When called in season, I have seldom failed to set aside a threatened cellulitis by the same means. My custom is to give it in the second or third decimal dilution. In an urgent case, the dose should be repeated every twenty minutes or half hour, for four or five times successively, and afterwards less frequently.

You will find the particulars of some very interesting cases of

* See the U. S. Med. and Surgical Journal, Vol. VII, page 268.

erysipelas cured by the local and general use of the veratrum viride in Prof. Hale's work on Materia Medica.*

In addition to the faithful employment of one or more of these internal remedies, it may serve a good purpose, and can do no possible harm, to resort to the local use of dry heat by means of hot flannels, or of a dinner plate that has been immersed in hot water, wrapped in flannel and then placed directly over the seat of the pain. Sometimes great good can be effected by applications of towels or cloths wrung out of hot water, and frequently repeated. But best of all is the simple, old-fashioned bran poultice that I have so frequently recommended you not to forget in cases of threatened puerperal inflammation of whatever variety.

Local adjuvants.

For the stage of effusion, which in many, and perhaps in a majority of cases (as you will be called to them in private practice), can not be averted, a different class of remedies are certain to be indicated. Prominent among them are apis mellifica, arsenicum alb., bryonia, rhus toxicodendron, digitalis, cantharis, mercurius sol., stibium, helleborus niger, colchicum and sulphur, which may be given according to the particular symptoms, or group of symptoms that are present.

For the stage of effusion.

Concerning the use of the apis mel., which is an invaluable remedy at this stage of the complaint, I am of the opinion that many physicians have failed with it because the preparation which they have given has not been trustworthy. In 1868, my friend, Dr. J. D. Craig, of Niles, Mich., sent me a trituration of the remedy which he had prepared and prescribed with excellent effect. His method was to extract the sting of the honey-bee, and its poison-bag also, with a pair of forceps, and then to triturate these with the saccharum lactis in the proportion of two grains of the sugar to one sting. This he called the first trituration, from which others could be made in the usual manner. I have prescribed this preparation in the second stage of cellulitis, and in dropsical disease, with good effect, and can therefore recommend it to you.

Apis mel.

But, if you desire to facilitate resolution, and to counteract the

* The Hom. Mat. Medica of the New Remedies, by E. M. Hale, M.D., etc., second edition, 1867, page 1053.

tendency to suppuration (which indications are identical), it is indispensable for you to put your patient upon a good diet. If the digestion is impaired, and food can not be taken, or tolerated, that disorder should be corrected as speedily as possible. And, when it is remedied, you must see to it that your patient is not starved into the very condition that you wish to avoid. For in most cases of this kind, the quantity of serum effused, the size of the tumor, and the risk of abscess bear a proper relation to the impaired quality of the blood, and to the too rapid destruction of tissue that is going on in the system. And, unless the patient's strength is fortified against it, you will learn when it is too late, that either a passive, but very extensive, infiltration of serum has taken place, or that pus has already been formed and is seeking an outlet.

A good diet.

Under these circumstances, therefore, do not permit the febrile condition to mislead you. If such a result were desirable, a rigid diet would be the very best means of inducing a hectic fever and its attendant symptoms. For the weaker your patient, the greater the liability to fever and to the non-removal of the tumor, excepting through the process of suppuration. In puerperal women, especially, whose strength has been taxed during gestation, and who have survived the martyrdom of labor, there is a strong predisposition to the *diathèse de suppuration* of Trousseau. If you persist in keeping them upon an insufficient aliment, the best chosen remedies will not help you out of the difficulty. Indeed, this is one of those conditions in which good food may be worth more than medicine. I firmly believe that the patient who was before you at my last lecture, would have died during her first week in the hospital if she had not been properly nourished.

Caution.

Nor do I know of anything that is more beneficial in some of these cases than certain preparations of alcohol. There is no danger of exciting inflammation or fever by the proper use of the best brandy, or whiskey. Stimulation will be well borne, and may bridge over the chasm. The alcohol acts most beneficially if mixed with some nutrient, as for example, with milk, the whites of eggs, or beef tea. Two or three table-spoonfuls of milk punch may be given every one to four hours, according to circumstances, and continued until the

Stimulants.

crisis has passed. Wine will not suffice. The malt liquors will answer a better purpose farther on.

Certain external means may conduce to the same end. I have great confidence in the bran poultice already recommended. It may be applied day and night for an indefinite period. Where the induration, or rather, the tumor is above the brim of the pelvis, an excellent expedient, designed to facilitate its resolution, is the local application of the camphorated oil, which consists, as you know, of gum camphor dissolved in olive oil. The inflamed region should be thoroughly anointed with it, and then covered with a thick layer of cotton batting. If the pain is very acute, and more especially if it is ovarian, one part of the tincture of hamamelis may be added to four parts of hot water, and applied topically by means of a compress. If the cellulitis is of traumatic origin, arnica may be used in the same way. A blister would de-vitalize the tissues and do positive harm, and so also would the tincture of iodine. Absolute rest is indispensable to the cure.

Emollients.

The best general rule for the treatment of the suppurative stage is to avert it if you can, but to promote the discharge of pus if you must. If you find that an abscess really is forming, no matter where the fluctuation may first be observed, give the patient hepar sulphuris, calcarea carb., mercurius sol., sulphur, or such other remedies as the symptoms may require. Or, if the discharge has already been too copious and long continued, silicea may be prescribed with a view to its arrest.

To promote suppuration.

Emollients of linseed meal, slippery elm, or bread and milk, hot fomentations and the hip-bath will sometimes afford relief to the pain and hasten the formation and discharge of pus. Or you may apply warm water per vaginam by means of a syphon, so as to facilitate the same process internally.

If the abscess points externally (and it is most desirable that it should do so), it may and should be lanced so soon as it is ready to discharge. Wait until the integument covering the tumor has softened and become thin; and be careful to make the puncture as low down as possible in order not to open the cavity of the peritoneum. It is safest to cut close to Poupart's ligament, more especially from the middle por-

How to open the abscess.

tion of the ligament outwards, in order to shun the sheath of the the femoral vessels. Some authorities recommend to make a valvular incision in opening these abscesses, in order to avoid the possible introduction of the air into the abdominal cavity.

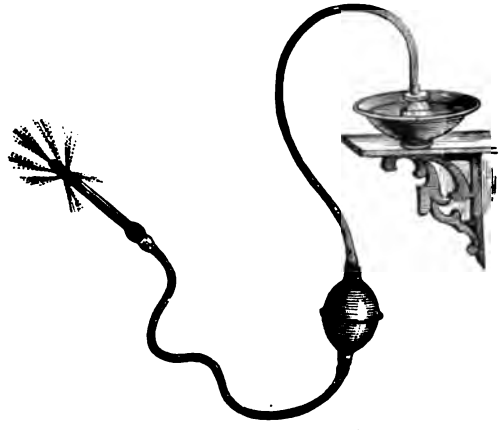


FIG. 36. The vaginal douche.

Unless there is a very decided fluctuation of the tumor along some portion of the vaginal wall or roof, or you are positive concerning the presence of pus therein—from having brought it away with the exploring needle —you will not be warranted in opening it per vaginam. For there is danger in such a case of wounding some of the pelvic viscera. But when there is a point of fluctuation, you may puncture very carefully and evacuate it as you would if it were a more accessible hæmatoma. It is safer, as in hæmatocele, to lance such an abscess through the vaginal septum, than from the rectal side of the tumor, because of the greater number of small vessels that are supplied to the latter. Whenever it is possible the sac should be entirely emptied, else a fistula may form and remain.

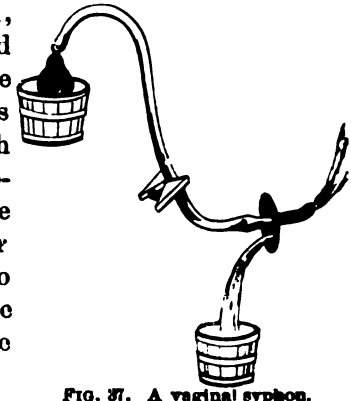


FIG. 37. A vaginal syphon.

Laparotomy and drainage in.

In suitable cases the abdomen may be opened, the abscess emptied, its margins stitched into the incision, and the wound closed and drained. This is a severe and hazardous remedy, and should not be resorted to without all the precautions and skill that are necessary in the worst cases of abdominal surgery. The contra-indications for the employment of this measure, preceded as it should be by a careful exploratory incision, will be considered farther on.

LECTURE XXVI.

PELVIC HÆMATOCELE.

Pelvic hæmatocele, clinical history; etiology. *Case.*—symptoms; diagnosis. *Case.*—prognosis. *Case.*—treatment, palliative, (*Case,*) medical and surgical. *Cases.*

Definition and clinical history.—An hæmatocele is a tumor composed of blood that has been effused, and which has become more or less solid. A pelvic hæmatocele is a blood tumor that has been formed within the pelvis, and which, both from its origin and location is connected with the internal generative organs. Various qualifying terms have been applied to these tumors, as for example, they are called peri-uterine, because they are outside of the womb, but in its immediate vicinity; retro-uterine when they are in the Douglas' space; vesico-uterine when they are located anteriorly, between the uterus and the bladder; intra-peritoneal when the blood of which they are composed has been poured into the peritoneal sac; and extra-peritoneal when it has been emptied into the cellular tissue.

Definition and varieties of.

The intra-peritoneal variety has also been styled the true and the encysted hæmatocele, in distinction from the false, the pseudo, the non-encysted and extra-peritoneal hæmatocele. Some writers call the latter a thrombus. By drawing a parallel between the recto-vaginal fold of the peritoneum, in women, and the tunica vaginalis testis in men, Bernutz concludes and insists that true hæmatocele can only take place within the peritoneum.

But these qualifying terms only serve to indicate the accidental location and anatomical relations of the tumor. Neither of them is sufficiently comprehensive to include the whole subject, nor do they represent so many varieties of the same affection. For this reason we prefer the general term pelvic hæmatocele.

Let me observe in the outset, that a hæmatocele is not a disease *per se*, but a contingent of certain intra-pelvic disorders, as for example, of amenorrhœa from cervical occlusion, menorrhagia and

metrorrhagia, abortion, extra uterine pregnancy, and pachy-peritonitis. It is always either a secondary, or an accidental affection, but it is none the less important on that account. Indeed, it is a very serious condition, and therefore I am anxious that you should have a clear and practical idea of its pathology and treatment.

Not a disease *per se*.

The clinical history of pelvic-hæmatocele is consequently varied. Its advent, its course, its complications and its final result will depend upon the nature and severity of the disease or the injury upon which it is secondary. It will also be modified, in a manner at least, by the general constitution of the patient, by the hæmorrhagic diathesis, and by the slowness or the rapidity with which the effusion and the extravasation of the blood has taken place.

Its clinical history is not constant.

Etiology.—The causes of pelvic hæmatocele are predisposing and exciting. In many cases a plethoric condition of the system, with a tendency to a profuse and prolonged menstruation precedes the attack. A copious flow of the menses predisposes to hæmatocele when that flow is intermittent and very irregular. Sometimes those women who for some cause are anæmic, or in a state of chloro-anæmia, are liable to the formation of these peri-uterine tumors. This is especially true in case the condition of the blood has induced an attack of amenorrhœa. Briefly, whatever constitutional or local causes is capable ot arresting or deranging the catamenial function may incline the patient to this affection.

Predisposing causes.

Catamenial disorders.

Marriage seems to have no influence in the production of this disease, at least in so far as the proper marital relation is concerned. Hæmatocele may and does arise, however, from sexual excess, and also from abortion, from extra-uterine gestation, and even from labor at term, but this cannot be properly charged to the marriage relation as a predisponant of hæmatocele.

Marriage.

Age has its influence, for we find that attacks of this disease are comparatively more frequent among those whose sexual vigor is most pronounced, and at a period of life when it is most active. This period extends from twenty to thirty-five years of age.

Age and sexual vigor.

Women of an hæmorrhagic diathesis are more prone than others

to this accident; for this state includes a weak and varicose condition of the veins, not only in the lower extremities and in the external parts, but also of the internal organs and surfaces. Clinically there is very little difference between a varicose condition of the hæmorrhoidal veins and that of the utero-ovarian vessels. And, when either of them is ruptured there will be an escape of blood from the anus, or an extravasation of it within the pelvis, according to the location of the lesion.

The hæmorrhagic diathesis.

The blood itself may become so depraved in quality as a result of the zymotic diseases, like scarlatina, variola, diphtheria, malignant jaundice, or purpura, as to incur the risk of its effusion or transudation from the free surface of the inflamed peritoneum. For in this class of cases we may have a hæmorrhagic peritonitis as well as a hæmorrhagic pleurisy.

Vitiated blood.

Pelvic peritonitis may predispose to pelvic hæmatocele by reason of the adhesions and false membranes which have been formed during its course. These sequelæ are not directly, or necessarily, of a serious character; but, as Virchow and Bernutz have shown, there is a possibility that the delicate vessels which ramify upon these neo-membranes may be ruptured, and a hæmorrhage result. This is what is understood by pachy-pelvi-peritonitis as a predisponant of hæmatocele. Those of you who are interested in the study of this peculiar subject will find the remarkable monograph by Bernutz in the *Archives de Tocologie, des Maladies des Femmes*, etc., for March, April and May, 1880.

Pachy-peritonitis.

The exciting causes include various traumatic injuries, as for example, blows upon the abdomen, falls upon the buttocks, the effects of jumping and of being thrown from a carriage, and rough riding on horseback, especially when these are applied during the menstrual epoch. Voisin reports several cases that were due to the indulgence of coitus during menstruation, and other writers have attributed it to a violent shock or fright during sexual intercourse. It may sometimes be caused by lifting, by straining at stool, by over fatigue, intense mental emotions, or by too early exercise after an abortion. Nonas reports two cases in which it was caused by the use of cold

The exciting causes.

injections during menstruation; and others have known it to arise from the application of cold sponges and compresses to the vulva during the monthly flow.

Whatever is capable of arresting this periodical discharge very abruptly may precipitate this form of internal hæmorrhage. The resort to vaginal and intra-uterine injections for the relief of menorrhagia, or to stop the flow after an abortion, may have the effect to turn the tide the other way, and to cause an accumulation of blood within the peritoneal or the cellular tissue of the pelvis. The same is true of the use of the sponge tent for plugging the cervix uteri, and of the tampon, when the uterus may fill with blood and force an outlet through the Fallopian tubes into the peritoneal cavity.

It has been suggested that the menstrual blood, after having been retained in utero for a greater or less length of time, might be very poisonous when brought into contact with the peritoneum. Pure, healthy blood, it is said would not induce peritonitis; but, if the blood was depraved, either in the general circulation, or when it came into the peritoneal cavity from some special source, it would be very likely to cause septic infection, as well as a serious inflammation.

From cervical stenosis.

There are exceptional cases in which hæmatocele evidently results from a partial or complete stenosis of the cervix uteri. We have had one of these under our observation for three years past. The facts were as follows:

Case.—Mrs. ——, aged twenty-eight, a slender, delicate woman who had been married for six years, but without offspring, and with no history of an abortion, consulted us for the relief of a very severe headache to which she had been subject much of the time since her first menstruation at the fifteenth year. Of late, the headache had become decidedly menstrual, anticipating the flow some twelve or twenty-four hours, and being always somewhat relieved by it. But the monthly discharge was so scanty and escaped with such a stillicidium, that she felt satisfied that the retention must have something to do with her suffering. She had long been subject to hæmorrhoids.

I gave her remedies for some time, but without effect, and finally obtained permission to make a careful internal examination of the uterine cervix. She would not consent to this until she had satisfied herself that quite recently, indeed at her last period, she had

felt something quite wrong and unusual within the pelvis. I felt the conical cervix crowded forward towards the symphysis pubis by a retro-uterine tumor, that was of irregular form and doughy to the touch. Around its outline the tissues were very tender. Unfortunately, I could not know how long this state of things had existed.

The tumor was bi-lobular, with a kind of sulcus between the lobes that could easily be felt by the rectal touch. This sulcus, indeed, corresponded in shape, size and direction with the rectum itself. She had had a great deal of sacral pain, and of dragging in the hips and the loins, but the bowels were regular. The sacral distress was usually very severe at the month.

There was an almost complete stenosis of the uterine cervix, and only the smallest sound could be passed through the internal os uteri. With the absence of the signs of pelvic cellulitis, and of an uterine fibroid, the case was diagnosticated as one of menstrual hæmatocele, due to a reflux of blood from the uterine cavity.

A careful dilatation of the uterine canal was begun and continued throughout the inter-menstrual period. When the month came around, the flow was much more free, and she had very little headache. The strictest quarantine and rest were enjoined for a week during the period, and then the careful dilatation of the cervix was resumed. In three months the menstrual trouble and the headache had vanished, and, by a free coffee-ground discharge from the rectum, the tumor had almost entirely passed away also. For the last two years she has been quite well.

The intra-peritoneal hæmorrhage in hæmatocele has been attributed to various sources. Thus, Bernutz ascribes it to menorrhagia with a regurgitant flow of the menses through the oviduct: Nelaton, to the rupture of a Graafian follicle, and the gravitation of blood into the retro-uterine pouch: Virchow, to the rupture of the newly-formed vessels in the false membranes that have resulted from a local peritonitis: Peuch, Bichat and Devalz, to a rupture of the utero-ovarian vascular plexus; Tilt and Genouville insist that it comes from the ovary; Trousseau and Tardieu, to a sanguineous exhalation from the peritoneum; Tyler Smith, to an ovarian or Fallopian menstruation, which is vicarious in character; and Gallard to the escape or dropping of the ovum into the peritoneal cavity, or in other words, to the detachment of the ovum in extra-uterine gestation.

Source of the hæmorrhage.

Other causes that have been noted are a rupture of the Fallopian tube and of the ovary, the detachment of the fecundated ovum in

tubal pregnancy, and the sudden arrest of the lochia after confinement.

Symptoms.—As a rule, the more sudden the attack and the greater the loss of blood, the more likely is the tumor to be of the non-encysted variety. For a slower and more scanty extravasation within the peritoneum is almost certain to excite an adhesive peritonitis, in consequence of which, the walls of the hæmatic cyst are formed. So that, while the immediate danger corresponds with the suddenness of the attack and the profuse escape of blood, in the former case, in the latter, the pain and local suffering are the most pronounced.

The symptoms are local and general. The pathognomonic sign is found in the presence of a tumor which is located at some portion of the roof of the vagina. The physical characters of this tumor, when it is large enough to extend above the pubis, or into the iliac region, are dullness on percussion, irregularity of outline, tenderness on pressure, partial

Local symptoms.

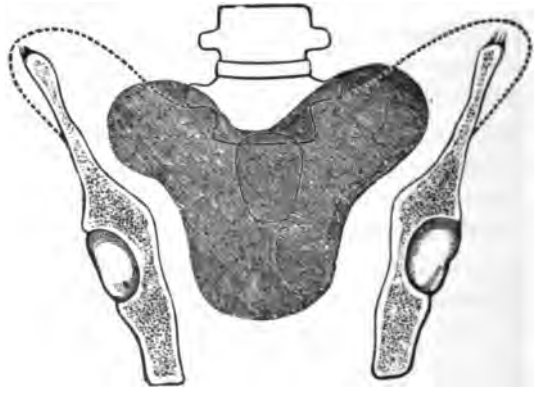


FIG. 38. Clover-leaf form of hæmatocele.

or complete fixity, and elasticity with a sense of fluctuation which soon gives place to an unequal density, (like the tumor of pelvic cellulitis.) When this tumor rises above the superior strait, it may take the clover-leaf form, as seen in this drawing.

Signs per vaginam.

The signs per vaginam are the recognition of the base and inferior outline of the tumor; the dislocation of the cervix, forwards, backwads, or laterally,

by the pressure of this foreign body; great tenderness on pressure in one or all of the culs-de-sac; and immobility of the tumor and of the uterus.

The largest tumors are almost always intra-peritoneal, and are naturally retro-uterine. The smallest are at the anterior cul-de-sac, because the vesico-uterine pouch, except in advanced pregnancy, is too shallow to contain a large quantity of blood. The more prolonged the stage of fluctuation in the tumor, the greater the certainty that its outline is not limited by a cyst-wall, and the greater the probability that the effused blood is impoverished and lacking in fibrine. The conjoined manipulation and the rectal touch are very useful in detecting these hæmatomata.

Varying size of the tumor.

Voisin's* description of the mode of formation of these tumors is very graphic:

"When blood escapes from the ovaries, the tubes, or the uterus, it falls naturally behind the broad ligaments into the retro-uterine peritoneal space, limited before by the broad ligaments and uterus, behind by the rectum and lateral folds of the peritoneum,—on all sides by serous membrane. Above, the *cul-de-sac* is open, and communicates largely with the rest of the abdominal cavity. In some rare cases the blood is carried in part into the vesico-uterine space, but in a very small proportion compared with the mass extravasated behind the uterus. Hardly have some drops of blood penetrated into the serous cavity than it inflames. This inflammation results in speedily establishing adhesions between all the pelvic organs, or rather between their peritoneal coverings. The coils of intestine are pushed upwards by the extravasated fluid, or rise upward by their own lightness. The collection of blood encysts rapidly, thanks to the energy of the inflammation of the serous membranes and the formation of cellular adhesions. The sides of the tumor are then limited, before by the broad ligaments, behind by the rectum and peritoneum, below by the recto-uterine *cul-de sac*, above, by the coils of intestines which, by their adhesions to the fundus uteri, the broad ligaments, the ovaries, the tubes, the round ligaments, and the peritoneum which covers the lateral parts of the pelvis, forms for the cyst a sort of resisting roof."

Mode of formation of the tumor.

The uterus may or may not be moved independently of the tumor. Not unfrequently it is in a state of subinvolution. If the retro-uterine tumor is large and dense, the cervix may be pushed

*De l'Hématocèle Retro-Utérine, Paris, 1860.

behind or above the pubis, and the rectum obliterated. If the ante-uterine tumor is large enough, the fundus and body of the womb may be retroverted. If the effusion has taken place on all sides of the uterus, that organ may be fixed as in a mould or cast when the tumor begins to harden. Retro-uterine hæmatomata may distend the Douglas cul-de-sac until it reaches the floor of the pelvis, or by pressure may induce an infiltration of the recto-vaginal septum. It is very rare to have more than one of these hæmatic tumors in the same patient. (See Figs. 39 and 40.)

Fixation of the uterus.

In some cases these tumors diminish in size from time to time. If we can prevent a repetition of the flow, especially in menorrhagia, they will shrink as they become more solid, until finally they are removed by absorption, or by their suppuration and discharge through one of the pelvic outlets. This fact may be confirmed by means of a careful bi-manual examination repeated now and then.

Changes in the tumor.

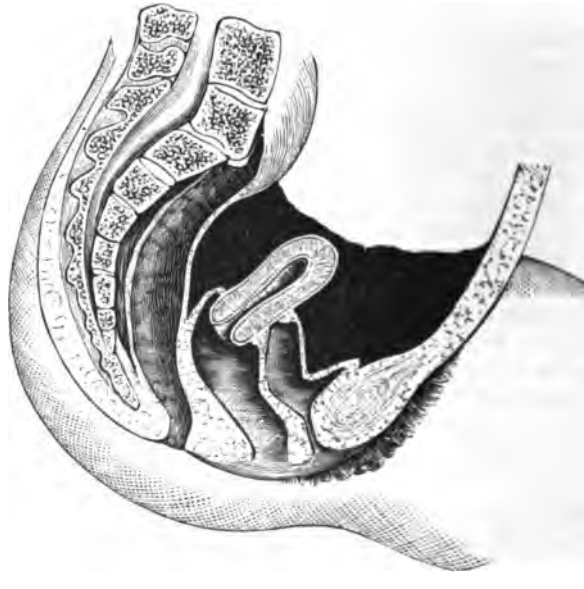


FIG. 39. Intra and extra-peritoneal hæmatocele.

If the hæmorrhage happens to occur when the rectum is loaded with fæces, the tumor may be moulded into such a form as after-

wards to exempt the patient from rectal tenesmus, which usually is one of the most distressing symptoms in retro-uterine hæmatocele. And strangury may also be lacking as a symptom if, during the solidification and encystment of the tumor, the patient has invariably lain upon her back.

Form of the tumor exceptionally.

Pelvic hæmatocele is so often related to menstrual disorders that the first symptoms are generally connected with amenorrhœa, menorrhagia or dysmenorrhœa. If a copious menstral flow is suddenly arrested, and a hæmatocele results, its onset will be very abrupt; but if the menstrual flow escapes very slowly, drop by drop, the tumor may develop gradually, and the general symptoms will come on imperceptibly. In the former case the sudden shock as well as the loss of blood, may induce fainting and prostration. In both conditions, when the hæmatic tumor is formed, the external flow ceases.

General symptoms.

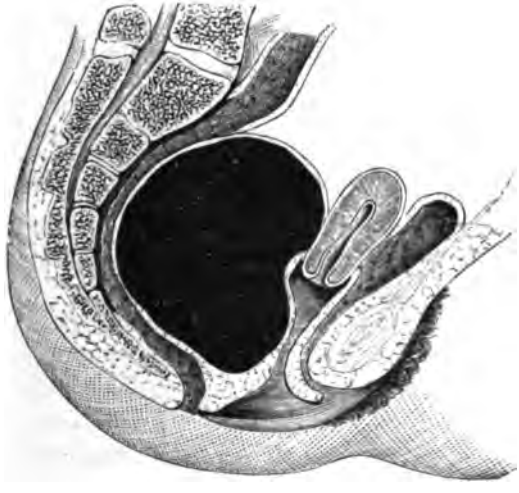


FIG. 40. Intra-peritoneal hæmatocele.

The larger the size of the tumor, the greater the amount of blood effused, and the more sudden the attack, unless in very exceptional cases, the less marked are the signs of a coincident peritonitis. And hence, at the very beginning, the pain is not always a criterion of the gravity of the case. If the attack has come on slowly, or

The coincident peritonitis.

the extravasated blood has been poured into the connective tissue, or into the peritoneal sac, when those parts are already inflamed, the suffering will be very severe. Large accumulations give rise to great suffering, however, when they have existed for a little time.

The pain.

The pain, which is perhaps more agonizing than even a woman is called upon to endure, under other circumstances, is located about and within the pelvis and the lower abdomen. Sometimes it is paroxysmal, and partakes of the character of labor pains; again it is confined to the sacral region, and is referred to the rectum, where it causes an insufferable tenesmus. In some cases there is a distressing strangury, and in others an absolute inability to stand. But this pain, wherever located is excrutiating in character, lancinating, expulsive, or neuralgic, with a feeling as if the intra-pelvic tissues were being torn and lacerated.

If the attack has been very abrupt and severe, there will be loss of blood and such a shock to the nervous system as to induce syncope and collapse, with coldness and pallor of the surface, pinched features, hiccough and vomiting, and an almost imperceptible pulse. These symptoms bear a pretty constant relation to the amount of blood that is effused, and may be so overwhelming as not to be followed by reaction. Their suddenness and gravity are like those which are due to perforation of the bowel in typhoid fever. A very remarkable case of this kind was reported to the Clinical Society of our Hospital last year by Dr. R. F. Baker, of Davenport.

Other symptoms.

In milder cases the suffering is mitigated after a few hours, but, in consequence of increased effusion or of an extension of the peritoneal inflammation, it is likely to return. Exceptionally there is a relapse at each returning menstrual period. When the effusion is gradual and is limited to the pelvic cellular tissue, the suffering may be comparatively slight; indeed, there is reason to believe that, through the good results of menstrual quarantine, many of these cases pass without recognition.

Mild and relapsing cases.

The remaining general symptoms are those of pelvi-peritonitis; and they are modified as the case passes through the different stages of resolution, suppuration, and discharge. The digestive disorders, more especially the bilious vomiting and loss of appe-

tite, are limited to the first stage of the affection, but, for mechanical reasons, dysentery, or a dysenteric diarrhœa, is likely to be developed. The fever varies according to circumstances. If the pain and the peritonitis are marked, the temperature and the pulse will be increased; but, if the hæmorrhage has been great and sudden, the temperature will be low and the pulse feeble.

Symptoms in the later stages.

When the duration of the disease is prolonged, a marked and persistent anæmia is developed. The color of the skin resembles that of chlorosis, and because of occasional or periodical relapses of the disease, it may become permanent. The coincident peritonitis may increase or continue until it becomes suppurative, and an abscess may form about the hæmatic cyst. The accompanying symptoms will include the signs of the suppurative form in addition to those of hæmatocele.

The anæmia.

Diagnosis.—In a differential way it is more difficult to distinguish between a pelvic abscess, or pelvic cellulitis and pelvic hæmatocele, than between hæmatomata and any other class of pelvic tumors. In my lectures on pelvic cellulitis, I have already given you the signs by which we separate these two diseases. This is a very important subject and one that merits your careful attention. The great Nelaton, mistaking a pelvic abscess for a pelvic hæmatocele, punctured the tumor through the posterior wall of the vagina, and discharged an immense quantity of pus instead of blood.

From pelvic cellulitis.

Nor is it always easy to avoid confounding this disease with uterine fibroids. The chief points to remember are that in hæmatocele the tumor forms and grows rapidly; that its formation is accompanied by grave constitutional symptoms; that the tumor is regular in its outline, and soft to the touch, growing more dense as time goes on; that its presence causes the most intense suffering which may continue, or repeat itself; and that, if it is retro-uterine, it displaces the uterus upwards and forwards as no other pelvic tumor is likely to do. The very opposite is true in the case of uterine fibroids, for they are of slow and gradual growth, without any special or dangerous constitutional symptoms; the tumor is more or less irregular in outline, and hard from the first; its presence is tolerated without severe pain, and it does not displace the womb in any particular direction.

From uterine fibroids.

Although these differential symptoms may appear very plain and quite sufficient, great care is requisite in deciding between these two affections. For the celebrated Malgaigne, of Paris, and the no less distinguished Stoltz, of Strasbourg, each mistook a pelvic hæmatocele for a uterine fibroid. The former did not discover his error until (in 1850) he had made an incision into the os uteri with the intention of enucleating the tumor; and Stoltz, was so confident of his diagnosis, that he made his patients' case the subject of several lectures upon fibrous tumors of the uterus. In the latter case the existence of the hæmatocele was not discovered until the autopsy was made.

Bernutz and Goupil could not decide, in a case at the Hotel Dieu, whether it was an hæmatic tumor or a uterine fibroid; and several cases are on record in which a large hæmatocele was mistaken for an ovarian cyst. Indeed, in one case, recorded in the *Transactions of the London Obstetrical Society*, the operation for ovariotomy was actually begun under a misapprehension of this sort.

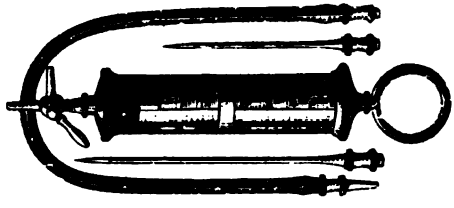


FIG. 41. The aspirator.

If we except the very rare cases of ovarian tumor in which there is a hæmorrhage within the cyst, there should be no danger of mistaking a case of pelvic hæmatocele for one of ovarian dropsy. The history of the case, including the mode of formation of the tumor, the incidental suffering, the constitutional symptoms, the menstrual or puerperal complications, and finally, the tapping of the tumor will enable us to decide between them.

From ovarian dropsy.

Extra-uterine gestation is always accompanied by some of the signs of pregnancy; the tumor is of slow growth, and is generally painless. If the vascular attachments of the ovum are not broken, there are no grave constitutional symptoms; but if they are ruptured, we shall have symptoms of pelvic hæmatocele superadded to those of extra-uterine pregnancy.

From extra-uterine pregnancy.

Case.—In a very remarkable case of this kind to which I was called in consultation in December 1879, by my friend Dr. Thomas

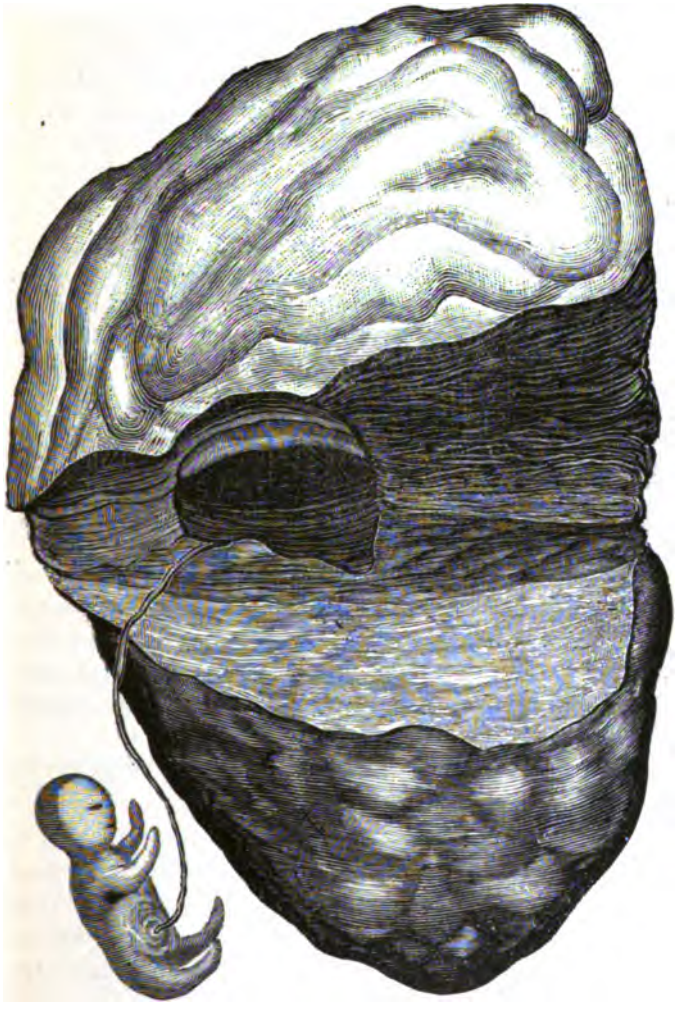


FIG. 42. Drawing of an hæmatic tumor resulting from a rupture of the sac containing the ovum in ovarian pregnancy. This tumor was shown to the College and Hospital Class for 1879-80 the day after its removal. The facts as illustrated were also confirmed by Drs. Rowsey, Lungren, Parmellee, and others, who were present and who assisted in the operation.

Rowsey, of Toledo, Ohio, the pregnancy was ovarian, and the sac and its attachments had been ruptured at the eighth week, with a resulting hæmatocele of the right broad ligament. Even at so early a period, Dr. Rowsey had very skilfully recognized the case as one of extra-uterine gestation, and when the rupture took place and his patient was in great peril, I was sent for to decide upon the expediency of an operation for the removal of the tumor. We determined upon gastrotomy, and found the right broad ligament to be the seat of an hæmatic tumor larger than my fist, at the upper and inner angle of which the dark blood was oozing into the peritoneal cavity. The sac upon the right ovary had been ruptured and was filled with soft blood-clots, and the embryo with its rudimentary cord was immersed in fibrinous clots, and fluid blood. The whole mass was carefully removed by the ecraseur, taking the broad ligament along with it. The patient reacted well, but for some unknown reason, since a post-mortem was not held, she died on the third day. (See Fig. 42.)

The diagnosis of retro-uterine hæmatocele from retroversion of the uterus is made out quite readily. The signs revealed by the conjoined manipulation; the possibility of lifting the tumor; the absence of the agonizing peritoneal pain, and of the vomiting and the collapse of hæmatocele; and the confirmation of the displacement by the passage of the uterine sound or probe, enable us to detect the uterine deviation with a good degree of certainty.

From retro-version of the uterus.

In doubtful cases, and as a last resort, the exploring needle or the aspirator may be called into requisition to settle the diagnosis. But these instruments should be used with the greatest care, and not indiscriminately. They are most decidedly contra-indicated if the tumor is very large, and if its contents do not solidify. If the tumor is very hard they reveal nothing; and even when it is soft the fluid may be too thick to run through the canula of so small a trocar. If upon the withdrawal of the instrument a few drops of pus are brought away we shall know that the case is one of abscess with or without an hæmatocele. I have already shown you the aspirator. (See Fig. 41.) The needle, or the trocar, after being carbolized, should be passed on the vaginal side of the tumor.

The aspirator and the exploring needle in.

Prognosis.—If the effusion is slight and the tumor is circumscribed; if the accompanying peritonitis is local and adhesive; if the general condition of the patient is good, and the attack does

not repeat itself too often, a gradual recovery is the rule. This result is likely to happen in the extra-peritoneal, or cellular variety, more especially if the collection of blood is not so large as to break through into the peritoneal cavity. The latter form of the hæmatic tumor is, however, very likely to terminate in abscess.

But if the patient is of an hæmorrhagic diathesis, and the loss of blood is sudden and large; if the shock and collapse at the onset of the attack were pronounced and the reaction intense; if the tumor continues soft and flabby, the pulse weak and feeble and the appetite poor; if the anæmia continues, and the chlorotic hue does not give place to the florid complexion; if the attack was menstrual, and there is a probability of a relapse at the next or subsequent periods; if the rupture was tubal, ovarian, uterine, or the consequence of an extra-uterine pregnancy; if the case is complicated with diffuse peritonitis, more especially if it is puerperal; or if there is a concurrent suppuration, or a consequent cachexia, the prognosis is generally unfavorable. Even in chronic cases where these hæmatomata empty their contents into the rectum there is danger that the hæmorrhage may be renewed and become so excessive as to be beyond control.

I ought, however, to say that of late, unless they are over-whelmingly fatal in the first stage, cases of pelvic hæmatocele are more readily controlled than in former times. This result depends upon our having a more correct idea of their special pathology than was possible twenty years ago. And, consequently, upon our knowing enough to avoid the added dangers of a mischievous interference with what we do not understand.

Treatment.—The treatment is palliative, medical and surgical. Absolute rest, to be enjoined, not only because it gives comparative exemption from pain, but also because it is the best means of preventing an increased effusion of blood, or a relapse. The patient will choose the position which is most easy, and she should be permitted to keep it. It may be necessary to insist that she shall remain in bed through two or more consecutive menstrual periods. And not only should she be kept quiet, but the bowels should be at rest, and not worried by cathartics, or even by enemata. I have known a case in which a relapse of an hæmatocele was induced by strangury. For

Palliative treatment.

a long time after an attack of this disease sexual intercourse should be strictly forbidden.

In serious cases it becomes a question whether our dislike of opiates should not yield to our desire to relieve the terrible suffering that is incident to the hæmatic tumor. If we had a remedy or remedies exactly suited to all the symptoms in the case, and if the ill effects of the narcotic were not more than counterbalanced by the rest that it brings, and the consequent exemption from an increased extravasation of blood, I would advise you never to resort to morphine in this class of cases. You may get along without it if you can, but, the fact is that in very bad cases you will be forced to give it, although under protest.

Other means of assuaging the pain and of preventing an increased effusion of blood are to resort to hot water injections per-rectum, or per-vaginam. You may add two tablespoonfuls of the mother tincture of hamamelis to a pint of very warm water, and throw it into the rectum or the vagina. Or compresses wet with the same solution may be applied over the pubis and the vulva with good effect. Some authors prefer cold instead of warm applications and injections. In this case cold water, and even ice water may be thrown into the rectum as a means of arresting the hæmorrhage; and the same may be applied locally to the lower portion of the abdomen and to the pubic region.

For the immediate relief of the collapse such stimulants as whisky or brandy, milk punch, or egg-nog, with inhalations of camphor, or ammonia may be servicable. If at the same time the pain is very severe, a few whiffs of the nitrite of amyl may bring relief and the much needed repose. The medical treatment, as stated by Jousset, is included in three principal indications, viz., (1) to limit and overcome the serous inflammation, (2) to favor the absorption of the effused blood, and (3) to prevent a repetition of the hæmorrhage. The first of these indications is to be met by the remedies of which I have spoken in my lecture on pelvi-peritonitis. They are aconite, belladonna, colocynth, rhus tox., and terebinth, to which may be added china, ipecacuanha, secale cor., arsenicum, thlaspi bursæ, hamamelis and digitalis.

The medical treatment

Here are the notes of an interesting case to which I was called in consultation some weeks ago by my friend Dr. E. G. H. Miessler, of this city.

Case.—Mrs. G., aged 33 years, of bilious temperament and of a weak constitution, enjoyed good health until she was married, which was ten years ago. From a continued exposure to wet and cold (her lot was to assist her husband in a butcher shop) she contracted rheumatism, which not only caused her very severe pain at times, but made her lame and wretched. At the end of the second year of her married life she gave birth to a premature child, which labor occurred in the eighth month. From want of proper care and assistance this accident gave rise to some severe pelvic trouble, which resulted in sterility from obstructive dysmenorrhœa and general debility. About the middle of September I was called to relieve her if possible of her pain and lameness as she was not able to move about. All of her symptoms were of a rheumatic character, for which I found bryonia 3, was well indicated. The pains were worse on motion, and better at rest, with thirst for cold drinks, and constipation.

Sept. 19 was called again. The following statement was given by the patient herself. She felt greatly relieved from her pain and lameness—was able to move about and do her work. On a cold rainy day, and while menstruating, she did her washing and took cold. Her chief complaints were severe excruciating pains in the left ovary, and in the back, across the kidneys. Pulsatilla and belladonna 3 were given in alternation, and hot bran-poultices were ordered to be applied locally. There was but slight fever. The next day the ovarian pains were somewhat relieved, but the pain in the back was more severe. It was not a constant pain, but paroxysmal, and seemingly aggravated by flatulency. There was nausea and vomiting, with a yellow-coated tongue, loss of appetite, thirst, restlessness and headache, tenesmus, constipation of the bowels. A vaginal examination revealed some swelling along the posterior wall of the vagina, which was very sensitive to the touch, the pain being made very much worse by straining at stool. Nux vomica and lycopodium 3, to be given alternately, and also an injection of warm soap-suds, but all in vain.

Sept. 20. No better, but rather worse. Pulse 120—temperature 102°—more swelling, and all the symptoms aggravated.

Sept. 21. There is an aggravation of all the symptoms. Pulse being 120, temperature 102°, the tumor being larger and more painful. The same treatment was continued.

Sept. 22. The patient having had a very restless night despaired of her recovery, and expressed a desire to have another physician called in consultation, to which I willingly consented, and Dr. R. Ludlam was sent for. He made a careful examination and approved my diagnosis, that it was a genuine case of retro-uterine hæmatocele. It was thought best to hasten suppuration by injecting water as hot as it could be borne, and to give hepar

sulph. internally. The hot water injections, which were to last from ten to fifteen minutes at a time, and to be repeated several times during the day, gave great relief. On account of the great pain, caused by the flatulence, and the fearful tenesmus, lycopodium, nux vomica, and merc. sol. were successively given. After two days more of suffering, a very offensive matter of a dark brown color escaped by the rectum, which gave decided relief. Then for a day the discharge was very profuse. It gradually lessened in quantity, but lasted about five days. As the tumor discharged its contents, all the morbid symptoms disappeared, and the patient made a good recovery.

The surgical treatment consists in discharging the contents of the tumor either by incision or by tapping. The former method is proper and expedient only when the tumor is solid and easily accessible. The latter is the common method of discharging the cyst. In our day these tumors can be tapped with the aspirator much more safely than was possible with the old-fashioned trocar. But still the operation is not devoid of danger, and is strongly contra-indicated in certain conditions. Thus it would not be safe or expedient while the effused blood continues in the fluid state, without being encysted, nor while the size of the tumor continues gradually to diminish and the patients condition to improve, nor if the source of the hæmorrhage, being catamenial and dysmenorrhœal or obstructive, still remains to reproduce the difficulty. Most authorities have regarded it as an "extreme resource."

The surgical treatment.

Contra-indications for tapping.

But, if the tumor has existed for a long time, and shows little or no disposition to be absorbed or to disappear; if the original cause of the hæmorrhage in such cases is no longer in operation; if there is a very large accumulation, which is not too recent, but which causes great pain and pressure, with forcing pains like those of labor; if there are rigors and signs of suppurative fever; if the symptoms are those of septic infection, or typhoid in character, with a hyperthermic condition, there should be no delay in evacuating the tumor. I am opposed to putting it off very long, for when properly used it gives great relief and expedites the cure.

Indications for tapping.

Some authorities, remembering that Nature most frequently discharges these tumors spontaneously through the rectum, insist that they should be tapped from the rectal side. But this is not

important. We select the most dependent part of the pouch, and discharge it with a large-sized aspirator trocar.

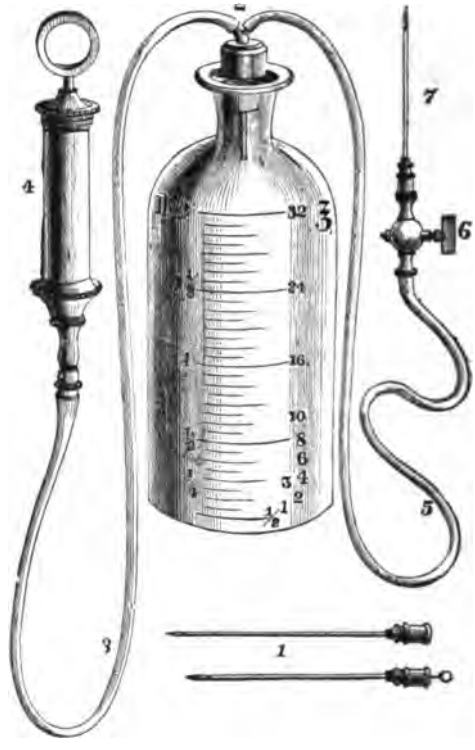


FIG. 43. The aspirator.

Laparotomy, washing and drainage in.

A safer resource in the hands of an experienced gynecologist is to open the abdomen, empty out the accumulation, tie any bleeding vessel, remove the ovary, or the wounded tube, if necessary, wash out the abdominal cavity and close the wound with careful drainage.

LECTURE XXVII.

CERVICAL METRITIS.

Acute Cervical Metritis; Chronic Cervical Metritis; Corporeal cervicitis and scanty menstruation.

Of late the subject of the inflammation of the uterine cervix has attracted more attention than ever before. Its diagnosis and treatment are very far from being perfect, but the case that I shall show you upon the table, and my remarks upon this form of inflammation in my general clinic will give you a practical idea of this very important subject. For, as there will be no lack of these cases in your private practice, wherever you are located, it is my duty to familiarize you with the different forms of cervical metritis.

ACUTE CERVICAL METRITIS.

Case.—Mrs. ——, aged 35, the mother of three children, the youngest of which is six years old, relates the following story: Eight days ago, at the proper time, the menses made their appearance without any unusual symptoms. On the same morning she commenced a five days' job of work upon the sewing machine. At the close of the first days' labor the flow ceased for some hours, and then, after a foot-bath and a night's rest, it returned. On the third day there was another intermission in the menstrual discharge, and on the fourth day it ceased entirely—two days sooner than usual.

She now complains of headache, with slight vertigo, the face is flushed, the pupils are somewhat dilated, noise worries her, and she cannot bear the light. There are cutting, darting pains in the upper portion of the thighs and across the hips. These pains are worse on motion and while standing upon the feet. She also has a burning, bearing-down pain, within the pelvis, some strangury, and great discomfort. She is very nervous and apprehensive.

The "touch" reveals the os uteri patulous, the cervix swollen, hot, dry, and exquisitely tender. She cannot bear the least pressure upon it. The womb lies very low in the pelvis, so much so that when she stands upon her feet it rests upon the perineum.

Examination with the speculum shows the tumefied and tender

cervix to be congested and more than twice as large as natural, but there are no signs of abrasion, neither of ulceration. The epithelium covering its vaginal portion is intact, and there is no unnatural discharge from the external os uteri.

This is a case of acute inflammation of the neck of the womb. Writers describe two varieties of cervicitis — one in which the substance, or parenchyma of the uterine cervix is the seat of the inflammation (cervical metritis), or areolar hyperplasia (Thomas); another in which the inflammation is limited to the mucous membrane that covers the vaginal portion and lines its canal (cervical endo-metritis). These diseases are so frequent and troublesome that you will need to study their clinical history most carefully.

Varieties of.

Cervical metritis is very rare in those women who have not given birth to one or more children, either prematurely or at term. Indeed the most powerful predisponent of this disease is found in the changes which are incident to the uterine cervix during the middle and later months of gestation. The virgin cervix is firm and fibrous, almost cartilaginous in texture. Its vascularity is not at all pronounced, its dilatability is scarcely sufficient to permit the ready exit of the menses. But the modifications which it undergoes during pregnancy change the consistence of its tissues, not temporarily, but, in a sense, permanently. The contraction and involution which follow delivery do not restore the unyielding nature which is proper to the virginal cervix, and thenceforth we find it liable to diseases from which it was exempt before.

Rare in nulliparæ.

One of the most frequent of these affections is acute cervical metritis. And all of its exciting causes produce a more decided and damaging effect if they are applied at or about the time of the menstrual return. It is possible that this woman might not have experienced any ill consequences from the same kind of exercise had it been taken at another time. But, she "did not think," — a very common infirmity with patients as well as with their physicians — and therefore, she set to work the very day the flow began, intending to persevere with it during the "period."

The monthly cycle a predisponent.

Much has been said and written of the sewing-machine as a cause of uterine disease. I apprehend that it is the abuse, instead

of the proper use, of the machine that works the mischief in those who run it. The trouble is that, with most housekeepers, it offers such a ready and expeditious means of doing the family sewing that they are tempted to postpone this labor until it has accumulated for weeks, and perhaps even for months. Then they go to work for days and nights consecutively, in order to despatch it, and to "get it out of the way." The instrument itself may be as innocent as the piano. It is this habit of playing upon it, or rather of working with it, continuously for hours and days together, that does the harm. If the same work were properly distributed, as our wives and daughters "practice" upon the piano — not as a business, but as a recreation and diversion, the result would doubtless be very different. In the case of those women, however, who are obliged to sit at the sewing-machine from morning until night each day in the week, in order to obtain a livelihood, it is almost impossible for them to escape certain functional and organic diseases of the womb.

Sewing machines and uterine diseases.

Whatever tends to wound, bruise, or irritate the neck of this organ may, in those who are predisposed to it, give rise to cervical metritis. Too violent exercise, as horseback riding, or riding in a rough carriage or car; misplaced, or badly-fitting pessaries; too forcible and excessive coitus; prolapsus, and the various flexions of the uterus; standing for too long a time upon the feet, as in the case of female clerks in our shops and stores, and of ladies at fashionable parties; a sudden arrest of the menstrual flow; and the extension of the inflammation in cervical endo-metritis from the lining membrane of the uterine cervix to its parenchymatous structure, are among the more common exciting causes of this disease.

Causes of acute cervical metritis.

You will readily understand how it is possible for either of these causes to develop this form of metritis by converting the physiological injection of its structures, which is necessary to their nutrition and also to the menstrual function, into a pathological congestion thereof. A local arrest of the circulation, a temporary sluggishness, or stasis of blood in its loose, connective, dilatable tissue, represents the first step in the inflammatory process. What the

Mode of operation and results.

result of this engorgement will be we can not say beforehand. If the cause is not removed and the case properly treated, the cervix may become the seat of chronic inflammation, hypertrophy, induration, and possibly of scirrhous deposit.

Differential diagnosis.

Acute cervical metritis is more likely to be confounded with cervical endo-metritis than with any other disease. In the former, the neck of the womb is swollen and tender, not only to a light touch, but also to pressure upon it from within the vagina, and through the rectum; there is no abrasion and no ulceration, no appearance of hypertrophied villi (so often mistaken for granular ulceration) and no leucorrhœal discharge. The constitutional symptoms are such as attend upon the more severe forms of local congestion and inflammation in other parts of the body. There is almost always pain in the head, photophobia, a flushed face, and such nervous symptoms as those of which this patient complains.

Prognosis.

Fortunately the organic changes in the cervix, which are the sequelæ of acute cervical metritis, develop so slowly that prompt and proper treatment may prevent the disease from becoming chronic. In most cases, however, these changes take place insidiously and in a latent manner, so that the acute stage will have passed before the physician is consulted. Doubtless the frequent return of the menses serves to perpetuate the liability of the neck of the womb, which has once been inflamed, to repeated attacks, that may finally end in establishing the chronic form of the disease in it. In those women in whom the cervix is unusually long, as well as in those who are of a relaxed fibre, cervical metritis is very apt to become chronic and intractable. The same is true if the disease occurs in women of a decidedly bilious temperament, and who may be suffering from old hepatic disorders. Chronic affections of the rectum, as prolapsus and hæmorrhoids, sometimes retard or prevent the cure of a case of cervical metritis.

Postural treatment.

Treatment. — The increased suffering which this woman experiences when she is upon her feet, suggests that she should not be allowed to walk about. The horizontal posture is the first thing you should prescribe for similar cases. You can not expect to cure them readily if the position of the patient's body facilitates and necessitates a determi-

nation of blood to the inflamed part. Especially should these patients be counseled to keep to the bed or sofa during the menstrual period, and for some days thereafter. They should also avoid all those emotional influences which might, directly or indirectly, excite the sexual system. The bladder should be emptied regularly, and the bowels not permitted to become torpid and inactive, or otherwise the intra-pelvic circulation might be so deranged as to prevent the best chosen remedies from having their desired effect.

Remove the cause.

If, in a given case, there is reason to believe that any of the causes already named has occasioned the attack, that cause must be removed. And you should act promptly. Learn the source of the mischief and remove it as soon as possible, else the most proper and appropriate time for curing the case, or at least for preventing it from developing into the chronic form of the disease, will have passed before you have accomplished anything.

Prevention better than cure.

As the result of an abundant experience, I am persuaded that in these cases of engorgement of the cervix uteri, with incipient inflammation of its deeper-seated tissues, "prevention is better than cure." Hygiene should go hand in hand with Therapeutics. It would not be sufficient to give this woman belladonna, or any other remedy, and dismiss her without specific instructions concerning her habits of life, of exercise, and exposure. It is just here that our knowledge of special physiology and of special pathology will render us the most important aid. It may fail to suggest the remedy for the symptoms complained of, but it will not fail to suggest what, in such a case as this, is vastly more important.

Items.

It might involve a species of suicide for this patient to persist in running the sewing machine. She should not ride or walk very far or frequently. A journey from Chicago to New York, before her symptoms are relieved and the next menstrual period safely passed, might render her an invalid for months or even for years. And so also of croquet, of ironing, sweeping, or prolonged standing upon the feet, whether for pleasure at a party, or for profit in a store or in school. Any menstrual irregularity should be remedied. Sexual congress should be prohibited. Pessaries and every species of artificial support,

whether within the vagina or around the body, are positively and decidedly mischievous in this class of cases. The same is true of the use of cold and astringent injections thrown into the vagina, and of most of the lotions and ointments that are applied in case of hæmorrhoids.

If you can properly attribute the attack to traumatic injury, there will be no harm in prescribing a vaginal injection, consisting of the tincture of arnica, glycerine, and tepid water. In case she has hæmorrhoids, with venous discoloration of the vagina, or a varicose condition of the veins of the lower extremities, it is best to substitute hamamelis for the arnica. Simple glycerine and water, one part of the former to five of the latter, will sometimes allay the burning heat and pain within the pelvis. I have occasionally witnessed the best effects from Dr. Sims' method of applying pure glycerine directly to and about the cervix by means of a cotton or sponge tampon which is saturated with it. In one of my cases it certainly brought away half a teacupful of serum with which the swollen and pendulous cervix had previously been engorged. It may be possible by some such simple and harmless expedient to prevent what might otherwise develop into chronic cervical metritis.

Local measures.

The internal treatment should be regulated by the obvious symptoms peculiar to the individual case for the cure of which you are consulted. This woman will take of belladonna 3d, a dose every three hours. When her symptoms are somewhat improved, it may be repeated once in six hours. Let her come again next week.

Prescription.

In some of these cases, whether complicated with other forms of pelvic inflammation or not, and where the suffering is very acute, the hot rectal douche recommended by Dr. Chadwick, of Boston, is an excellent means of relief. The water used may be as hot as the hand can bear, and before it is thrown into the rectum, the finger should be passed into the vagina with its palmer surface toward the cocyx. As soon as you begin to feel the lower pouch filling up, you should wait a little, but without withdrawing the nozzle of the syringe. In this way from one to four pints of water may be injected without exciting an immediate action of the bowels. The patient

The hot rectal douche.

should keep quiet for half an hour, and it is possible that the water may not pass away again for an hour or two.

CHRONIC CORPOREAL CERVICITIS. — CHRONIC CERVICAL METRITIS.

Case. — Mrs. Emma H. ——, aged 26, Irish, is of sanguine temperament, has had three children and two miscarriages, the last of which she induced herself six months ago. The menses have always been profuse, and accompanied with great pain. At present she complains of pain in the left hypogastric region which, at times, extends to the pit of the stomach. She also says she has pains through the womb. The bowels are habitually costive. The appetite is poor. Micturition is difficult, and the urine carries a heavy deposit of urates. She also has leucorrhœa, which is both cervical and vaginal.

Physical examination shows the uterus to be three and a half inches in length. The cervix is engorged, thickened and swollen in the direction of its circumference. Its diameter measures nearly two inches. It is smooth and firm to the touch. The introduction of the sound, although not at all difficult, occasioned great pain. There is nothing discoverable about the neck of the bladder or the urethra to account for the painful micturition.

She was first placed on belladonna[3] once in two hours. The cotton tampon saturated with pure glycerine, was to be introduced every evening and worn through the night. This treatment, local and general, promptly relieved the engorgement and tumefaction of the uterine cervix, and her general condition was very much improved. Since that time, however, she has treated herself and our clinical assistants, to a series of hysterical manifestations, of which the following is a list:

1st. Gastralgia, which continued at intervals for three days.

2d. Retention of urine — which she passed easily enough when left to herself — lasted one week.

3d. Paralysis of the right arm for three days, and

4th. Pseudo-pleuritic pains that continued for twenty-four hours.

Our patient was brought into this institution from a neighboring hospital where, she says, her case was decided by the physician to be one of uterine cancer. I do not credit her story, and yet it may be a true one. For excepting what the doctors sometimes say of each other, no kind of testimony is so unworthy of trust as that which patients bring us concerning the views of other physicians, and the treatment to which they have already been subjected.

Symptoms — This is a case of chronic cervicitis, or of cervical hyperplasia. For some reason, most probably on account of the abortions which she has suffered, such interstitial changes have taken place within the uterine neck as to result in its enlargement and hypertrophy. Its measurements are very much increased, so that, within the pelvis it acts like a foreign body, or a tumor, causing suffering in other organs, and making the patient wretched. It presses against the urethra in such a manner as to give great pain on passing water; upon the rectum so as to cause the bowels to be obstinately bound; and is sufficient to maintain a constant leucorrhœal flow.

Mechanical symptoms.

Other symptoms which usually attend upon this affection are pelvic and sacral pains; prolapse of the womb, which is dragged toward the vulva by the increased weight of its lower segment; dyspeptic troubles, as vomiting, loss of appetite, gastralgia, loathing of food and caprices of appetite; and inability to walk without great effort, pain and fatigue. The incidental nervous disorders are more prominent than characteristic. Hysterical symptoms are an almost certain outgrowth of this particular lesion. Reflex ovarian irritation is also very common, and pains in the left hypogastrium, such as this woman complains of, are almost always present.

Direct and reflex symptoms.

Menstrual disorders are frequent. Some of these patients have amenorrhœa. In many cases there is unusual pain and difficulty in the commencement of the "period," which is occasioned by a partial closure of the cervico-uterine canal. But when that obstacle is overcome, the cervix being so very much engorged, the flow becomes excessive and perhaps long-continued. It often arises from excessive or improper exercise or travel at the month.

Menstrual disorders.

The neck of the womb is so tender to the touch that sexual intercourse is intolerable. In some cases of insuperable aversion to the act, which you will meet with in private practice, you will find that this condition of the cervix exists. Many patients with this form of cervicitis complain of burning pain within the pelvis. This pain is usually aggravated by exercise, as in standing, riding or walking. With

Contact.

the swollen cervix against the vaginal walls sometimes occasions extensive ulceration of its investing mucous membrane.

Nature and Cause. — This disease consists essentially in a hypertrophy of the cellular tissue of the uterine cervix. And this hypertrophy, or hyperplasia, as Dr. Thomas prefers to style it, almost never occurs excepting in those who have been pregnant. It is a post-puerperal affair. It may follow delivery at term, but is more likely to result from an arrest of development consequent upon abortion. In many cases it supervenes the artificial induction of miscarriage, the traumatic injury sustained seeming to add to the risk of its resulting as a sequel.

Post-puerperal.

It may be either the cause or the consequence of dysmenorrhœa. In "bilious climates" it is indirectly connected with hepatic disease. In this class of cases the uterus acts as a diverticulum for the blood which should circulate more actively through the portal system. The connective tissue of the cervix becomes engorged, and an excessive development of the uterine neck is the consequence. The cause acts and re-acts. You will be on the alert for this condition of things among multiparæ in malarious districts.

From bilious complication.

Diagnosis. — A few symptoms, carefully considered, will generally enable us to differentiate between this disease and cancer of the uterine neck, which is usually of the scirrhous variety. I am pretty confident that, in this case, the swelling of the cervix is not due to scirrhous deposit, because it is smooth and regular in outline and feels like a fibrous tissue. If it were cancerous, the outline would be irregular, nodulated, and bosselated, and it would feel hard and cartilaginous. Cervical metritis is almost always a sequel to pregnancy and to labor. It bears no especial relation to the climacteric. Cervical cancer is not at all infrequent in nulliparæ, and is most common at the "change of life." In the former, no matter how much the organ is swollen or displaced, it is mobile. In the latter, it may be fixed and immovable. In cervical metritis there is no evidence of a particular cachexy, while in cervical cancer such a dyscrasia is, sooner or later, manifest. In cervicitis there is no tendency to deep-seated ulceration, with destruction of

From uterine cancer.

tissue and hæmorrhage; in cancer, such a tendency is very marked.

But, even with the greatest care, it is not always possible to distinguish between these two diseases, more especially in the non-ulcerated state of uterine cancer. I have several times resorted to an expedient that has helped me to settle the diagnosis between them. You will do no harm by trying it. It is simply to use the cotton tampon saturated with pure glycerine, just as it was employed in this case. If the enlargement is due to plain, uncomplicated cervicitis, the depletion by means of the glycerine will soon lessen the size of the uterine cervix very perceptibly. If, however, the swollen state of the cervix arises from cancerous infiltration, or from an interstitial fibroid, the glycerine will not sensibly diminish its bulk. If this simple test had been applied in the case before us, my unknown predecessor would not have decided this to be a case of uterine cancer; for now the cervix is nearly normal both in size and texture.

A new diagnostic test.

The increased depth of the womb, the liability to hæmorrhage, to endometritis, to uterine displacements, and to coincident peritonitis, which belong to chronic corporeal metritis, and not to corporeal cervicitis, will serve to separate these two diseases. In some cases they succeed each other, and again they co-exist.

Diagnosis from corporeal metritis.

Prognosis.—This disease may continue indefinitely. Its course and termination will depend upon the nature and severity of the disorders with which it is complicated. It may decline at the climacteric, or possibly develop into a more serious form of organic disease. In a reflex manner it may cause the gravest lesions of the heart, the lungs, or of the nervous centers. Frequent abortions render it more chronic and intractable. If the patient is ill in other respects and incapacitated from exercise, the cure is more doubtful.

Treatment.—It is quite as important to prescribe the proper posture for this class of patients as it is in case of acute cervical metritis. Keep them in a horizontal or reclining posture, and off their feet, at the month especially. Shopping, visiting, party-going are as injurious as a

Postural treatment.

journey by rail, or an excursion on horseback. Such a patient should let her sewing-machine rest, and her servants take care of themselves.

If there is obstructive dysmenorrhœa, remove the cause and relieve the consequent engorgement of the cervix. If she has intermenstrual dysmenorrhœa, cure it. If the flow is too scanty, try and prompt it to be more free. If the rectum is paralyzed, or the bowels are badly constipated, she may be relieved when these conditions are set aside. She should be especially careful not to do anything before, during or directly after the flow that can by any possibility complicate the case and increase the cervical hypertrophy.

General indications.

If there are "bilious" symptoms remember that they are likely to afford the most prominent and cardinal indications for the remedy or remedies. Podophyllin, mercurius, chamomilla, bryonia, nux vomica, china, natrum mur., nitric or nitro-muriatic acid, or some similar remedy, may be specifically called for.

Other remedies that I have found especially useful are belladonna, lachesis and apis mellifica. Some of the best cures that I have ever made have been performed with these three remedies in this class of cases.

Bell., lach. and apis.

Locally the same treatment as already recommended for the acute form of this disease is equally suited to the chronic variety. The cotton tampon saturated with glycerine can do no possible harm, will not interfere with the action of internal remedies, and may do a positive good. After the first application it can be prepared, introduced and removed by the nurse or the patient herself. I generally recommend that it shall be used two or three times per week, according to circumstances.

Local adjuvants.

CORPOREAL CERVICITIS AND SCANTY MENSTRUATION.

Case.—Mrs. ——, has a urinary trouble, which is aggravated about the time of the flow, the menses are regular but scanty. The trouble began two years after the birth of her child, which was about six years ago; she has never had a miscarriage; she is obliged to pass the urine often, it is painful and scanty, and there is a thick sediment; sometimes there is but little pain, but it will be increased if her feet are cold; there is some strangury, but no involuntary flow; riding in the cars increases the urinary difficulty.

On local examination, the os was found much swollen and of a purplish hue, with a well defined vesicle on the anterior lip which was filled with serum. The cervix was elongated, red, and of sugar-loaf form, but there was no abrasion or ulceration, and no leucorrhœa. There is no flexion or sub-involution of the uterus. Tartar emetic 3, three times a day.

This woman first presented herself at our general clinic. She has since submitted to a careful local examination in the sub-clinic, and her case is now a clear one. She has corporeal cervicitis, the principal enlargement of the cervix being at its upper portion. Those of you who saw it in the field of the speculum will remember how it looked. You will also recall my remark that, since she had not had menorrhagia, but really suffered from scanty and difficult menstruation, it was impossible for her to have either chronic metritis, or sub-involution of the womb. And you remember that when I introduced the sound it passed to the depth of two and a half inches only, which fact confirmed my statement.

But, how can corporeal cervicitis occasion a scanty flow of the menses? Manifestly by narrowing the cervical canal and thus partially obliterating its outlet. And the pressure of this same tumefied cervix upon the neck of the bladder causes the strangury.

Query.

The fact that this latter symptom did not depend upon any form of uterine deviation was demonstrated to you by the direction which the point of the sound took when it entered the womb, and which it afterwards kept.

Fig. 44. Hall's Syringe.

The rational treatment for scanty menstruation in this particular case consists in the adoption of measures for the cure of the concentric hypertrophy of the cervix. The indications are not changed because, in this particular instance, the lesion is chiefly limited to the upper, or the abdominal portion of the neck of the womb. Hot water irrigation (See Fig. 44,) rest in the recumbent posture, especially at the month; keeping the bowels regular, and the bladder from becoming distended; the avoidance of excessive sexual excitement, tight lacing, or too prolonged

Treatment.

standing, and the passage of the sound, or the trial of slight and careful dilatation of the cervical canal almost directly in advance of the flow, are measures.

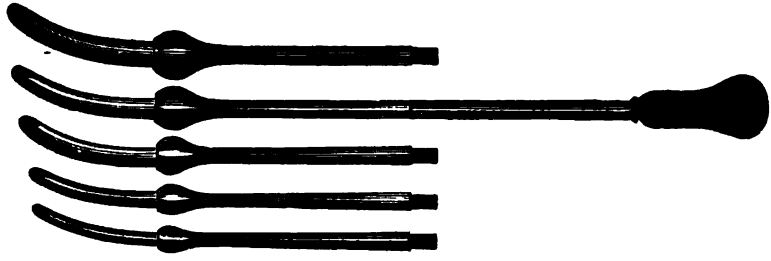


FIG. 45. Peaslee's uterine stems.

This latter indication can be met by the passage of the sound or of graduated bougies in the form of Peaslee's dilators.

Clinical experience teaches that in this kind of a case, the indications are peculiar. The symptoms detailed by this woman are as real as those of pneumonia or of rheumatism, but they depend upon a mechanical cause, and will persist while that cause continues to be applied. The structural lesion furnishes the chief indications for the treatment, because, without this lesion, there would be no symptoms that were sufficiently distinctive to tell us what the trouble was, neither what the remedy should be. I prescribed tartar emetic being fully satisfied of its power to reduce the hyperplasia in this benign and localized form of uterine inflammation. It may not be sufficient of itself to cure the case, but it will give us a start in the right direction, and you should not forget that the first step towards a cure, like the beginnings of disease, is often the most important part of it.

Tartar emetic.

During the past summer (1880) I had at one time six cases of this disease under treatment in my sub-clinic. These cases were carefully examined from week to week in the presence of the class. All local treatment whatever was withheld, and the most careful observations were made and noted in each and every case. They took no other remedy than tartar emetic, and the effect was so perceptible that every member of the class, as well as a number of physicians who were present from time to time, was satisfied with the result.

Where this inflammation is benign, and the infiltration of the cervix with serum that is loosely organized, constitutes the whole of the local difficulty, the case is in some sort the counterpart of the hepatized lung in pneumonia. This was what Spiegelberg recognized when he recommended the sponge tent as a means of diagnosticating simple corporeal cervicitis from cancerous infiltration of the cervix, and this was my idea in advising the internal use of tartar emetic for the resolution of the hypertrophied cervix, when it was traceable to a non-specific inflammation. I have now been in the habit of using it in similar cases for more than ten years, and although it is not always curative, it seldom fails to be of essential service, especially in conjunction with the topical use of glycerine, or of hot-water irrigation.

Uterine hyperplasia and sub-involution.

There is a clinical distinction between uterine hyperplasia, whether it be of the cervix or of the body of the womb or both, and uterine sub-involution. The former, especially, if it is limited to the cervix, is almost always accompanied by painful and scanty menstruation; while the flow in sub-involution is always excessive, and, unless it is accompanied by endo-metritis, is rarely painful. In exceptional cases there is no doubt that these two conditions coexist. When you are in doubt, there can be no impropriety in prescribing secale cornutum in the second or third decimal attenuation, and carefully observing the effect that is produced upon the size and texture of the cervix as well as the depth of the womb.

LECTURE XXVIII.

CHRONIC CERVICAL ENDO-METRITIS, OR ENDO-CERVICITIS.—UTERINE LEUCORRHŒA.

Endo-cervicitis; its cause, symptoms, diagnosis, prognosis, and local and general treatment.—*Case.*

Inflammation of the mucous membrane lining the uterine cervix is especially interesting because of its clinical relation to what is commonly known as uterine leucorrhœa. This patient came under our care six weeks ago. She is now almost well, and I present her as an illustration of the importance, nay, the absolute necessity, of a correct diagnosis as a condition of cure in some of these cases, and for the purpose of showing you that the simplest remedies are sometimes the most efficacious. Her clinical history, as recorded on her admission, is as follows:—

Case.— Mrs. ——, 28 years of age, the mother of two children, has been an invalid for two years past. Her ill health dates from her last accouchement, which was normal in all respects. She, however, "got up" very slowly, and was weakly during lactation. She still nurses her child, which is a big, hearty boy; and being obliged to take the entire care of him, she holds and carries him most of the time. She has not menstruated since her confinement.

She complains of aching in the loins, a dragging sensation about the hips, which extends to the thighs, and bearing down pains and pressure within the pelvis, "as if everything would be forced from her." This latter symptom is worse when she rises to her feet from the chair or couch. She also has a leucorrhœal discharge, which is thick, creamy, and sometimes more watery and copious. The freer this flow the greater her debility and prostration, and the more severe and distressing the pain in the back. Upon arising in the morning this discharge is often so profuse as to cause her to be faint, to destroy her appetite, and to incapacitate her for her household duties. She finds it impossible to stand more than a few minutes at a time, and can not walk but a short distance without being very much fatigued. She enjoys a short ride, providing the carriage is easy and the road is not rough.

At times she has a burning pain which, she thinks, is in the

mouth of the womb. Intercourse is almost intolerable. The bowels are badly constipated; the appetite poor and capricious, with more or less of nausea and loathing of food, especially in the morning. Her eyes are so weak that she can not read or sew more than five or ten minutes at a time without pain, indistinct vision, and lachrymation.

The touch reveals a tumefaction and tenderness of the cervix uteri. The womb lies very low in the pelvis. The external os uteri is patulous, and its lining membrane everted. A thick, albuminous mucus was taken directly from the canal of the cervix and subjected to microscopical examination. There is no visible ulceration, although she has been treated by three physicians for that disease. The neighboring organs appear to be healthy.

I have already spoken of cervical metritis, or inflammation of the parenchyma of the uterine cervix. The case before us is one in which the lesion is limited to the mucous membrane that lines its canal. It is styled cervical endo-metritis, or endo-cervicitis, to distinguish it from corporeal endo-metritis, internal metritis, or inflammation of the proper uterine mucous membrane, which is found within the cavity of the womb. For while you would naturally suppose that these two affections would often coexist, the fact is that they are almost as distinct and as little related to each other as are bronchitis and *bona fide* pneumonia.

Those of you who are not practically familiar with this disease may be disposed to question whether such a limited extent of inflammation could really induce very serious or persistent symptoms and ill health. The uterine cervix is only one and a quarter to one and a half inches in length. But the mucous membrane that lines its cavity presents a very considerable surface. Its rugæ, or plicated folds, are numerous; it is reflected over the arbor vitæ uterinus, and dips down into each of the little glands within the cervix, of which, according to Dr. Tyler Smith, there are as many as from two to three thousand. In an ordinary case of endo-cervicitis, therefore, a larger extent of mucous membrane is inflamed than you would at first have supposed possible.

Extent of the cervical mucous membrane.

And not only is this lesion an extensive one. The necessary implication of the glandular apparatus develops a disorder of secretion which depletes from the patient's general strength, complicates the case, adds to the suf-

A glandular lesion.

fering and retards the cure. Every well-marked example of endo-cervicitis is accompanied by a more or less copious and intractable leucorrhœa. And, although it does not come from the cavity of the womb, this discharge is commonly regarded as uterine. Hence, a majority of writers treat of this cervical leucorrhœa, which is a contingent and consequence of inflammation within the cavity of the cervix, and exterior to the os internum, as *uterine catarrh.* As applied to this disorder the term is a misnomer, and calculated to mislead. For there is as great a difference between the character of the flow in true uterine catarrh, and in proper cervical leucorrhœa, as there is between the rusty sputa of pneumonia and the mucoso-puriform secretion which is stained with blood in bronchitis.

Cervical leucorrhœa is not uterine catarrh.

Labor, whether in abortion or at term, is indirectly one of the most powerful predisponents of cervical endo-metritis. The changes which the womb undergoes after delivery, and which are designed, through the process of involution, to restore it as nearly as possible to its original size and form, may occur so imperfectly, or so irregularly, as to leave that organ in a very unnatural state. In this condition of sub-involution, its various tissues, including the mucous membrane within the cervix, are prone to become inflamed. It is for this reason, as in the case before you, that endo-cervicitis often dates from delivery. When a patient tells you that, since the birth of her last child, she has suffered from symptoms which are the counterpart of those of which Mrs. —— complained, you will have a strong presumptive sign of her disorder. A careful examination locally will either confirm or disprove your suspicions.

Predisposing causes.

A sequel of labor.

The scrofulous cachexia also predisposes to this form of uterine inflammation. It could not be otherwise, when so important a part of the secretory apparatus is implicated. The same is true of the return of the menstrual cycle. The physiological afflux of blood to the uterine cervix, and especially to the vascular membrane lining its cavity, may develop into a state of hyperæmia, and so derange the process of nutrition as to establish a genuine inflammation. Dysmenorrhœa, too frequent, tardy, scanty, or irregular menstruation, tend in the same direction.

Scrofulosis.

Menstruation.

The tuberculous diathesis is also a powerful predisponent of cervical endo-metritis. Depraved nutrition, from whatever cause, too prolonged lactation, rapid child-bearing, hereditary feebleness of constitution, and habitual strain of the mental faculties, if it is of a depressing character, belong to the same list of causes.

Tuberculosis.

My observation leads me to remark that there is still another cause which should be included in this category. I allude to the influence of what is known as a "bilious climate." Wherever hepatic disorders prevail to any considerable extent, as in malarious districts, we find a strong tendency to this variety of uterine inflammation. Organic and functional diseases of the liver embarrass the circulation of venous blood through the pelvic viscera. In a climate in which every kind of morbid state is stamped with the impress of "biliousness," this cause is constantly at work, and the step from congestion to inflammation of the cervix uteri is so short a step that it is very easily taken. Multitudes of women have cervical endo-metritis from this indirect cause alone. In confirmation of this view we find that, next to the large class of scrofulous subjects who suffer from it, women with dark hair and complexion, and black eyes, that is to say, who are of a bilious temperament, have this disease most frequently, and in its most intractable form. This is an item which those of you who are to locate in the South and West will do well to bear in mind.

Biliary disorders.

The exciting causes of this disease are very similar to those which often give rise to cervical metritis. A sudden arrest of the menstrual flow, dysmenorrhœa, cold wet feet and damp clothing, tight lacing and the wearing of heavy skirts that are hung at the waist, violent exercise at the month, too forcible and intemperate coitus, the retention of a portion of the secundines after a miscarriage, the use of harsh injections to prevent impregnation, or of harmful instruments to induce abortion, ungratified sexual desire, as in nymphomania; uterine displacements; obstinate constipation with paralysis or stricture of the rectum; ovaritis; gonorrhœa: rough travel in a carriage, the cars, or upon horseback, prolonged standing upon the feet, and the wearing of ill-adjusted pessaries, are the

Exciting causes.

most common of these causes. Exceptionally, in corporeal endo-metritis, there is an extension of the inflammation from the cavity of the womb downwards into the canal of the cervix. This almost never occurs, unless it be in the puerperal state, in which case the endo-cervicitis is a sequel of the endo-metritis proper. In vulvo-vaginitis, whether it be specific or not, the inflammation may finally invade the cervical canal and extend as far as the internal os uteri. But these cases are comparatively rare.

From Epidemic Influenza.

A mild, and in many instances a self-limited form of cervical endo-metritis, is sometimes met with during the prevalence of an epidemic influenza. You have seen several cases of this kind in our Clinique during the present winter. Such attacks may be either primary or secondary. They sometimes alternate with catarrhal inflammation of other mucous passages, as, for example, the nares, the throat, and the bronchial tubes, and perhaps also of the alimentary mucous membrane. In women of a scrofulous, or tuberculous cachexia, as well as in those who are greatly debilitated from other causes, an incidental cervicitis of this kind is very likely to become chronic.

Symptoms.

The most prominent and persistent symptom (in a well marked case of this disease) is the leucorrhœa. It is the first abnormality to attract the patient's attention, and the one above all others which a majority of practitioners are most anxious to relieve and to remedy. It usually begins with a slight increase of the normal healthy mucus from the cervix, which is observed to be most abundant a day or two in advance of the menstrual flow. Or it may follow menstruation, and continue for some days after the cessation of the catamenial discharge. Sometimes it is intermitting in character, being brought on by violent exercise or excitement at any time during the intra-menstrual period. The more chronic its nature, the more copious and exhausting it becomes. It may be creamy, viscid, highly albuminous, and inspissated in character. After a longer or shorter period, which varies in different individuals, the discharge becomes habitual and constant. Whenever the patient assumes the upright posture there is a sensible escape of this secretion from the cervix uteri. When she arises in the morning, after lying in bed all night, this flow may even be profuse, as it was a little while ago in the case before you. If it is bloody you

will remark that the blood is not thoroughly mingled, or incorporated with the mucus—as it would be in case of a muco-sanguineous discharge from the uterine cavity.

When the follicular inflammation within the cervix uteri is become deep-seated and chronic, more especially if it occurs in scrofulous subjects, the hyper-secretion is altered in character. Examination with the speculum discloses a string of tenacious, transparent, ropy mucus, hanging from the external os uteri into the vagina, and in exceptional cases, even from between the labia majora. Dr. W. Tyler Smith compares the appearance of this secretion from the cervix to that of soft soap. "It seems as if the alkali of the discharge combined with the fatty and albuminous element, to form a saponaceous compound."* Farther on in the course of the disease, and even although there may be no abrasion of the os uteri, and no ulceration, pus-corpuscles are added, and the discharge becomes muco-purulent. In most cases, however, it is puriform instead of purulent. It is seldom that the flow is acrid and excoriating in character, unless she has ulceration of the womb; or the inflammation is specific, as, for example, diphtheritic, or syphilitic, in its nature; or the tone of her general health is very low, by reason of debilitating diseases, such as stomatitis materna, hæmorrhage, inanition, and a consequent deterioration in the quality of the blood.

The puriform discharge.

All of which leads to the inference that this form of leucorrhœa should properly be regarded as a symptom, and not as a disease *per se*. In this respect it ranks with a cough, a hæmorrhage, a dropsy, or a diarrhœa. When you take the discharge directly from the os uteri, and examine it in the field of the microscope, it presents the appearance shown in this diagram. Here are cylindrical epithelial cells, mucus-corpuscles, pus-corpuscles, blood globules, and fatty particles. These are found floating in an alkaline plasma, which vehicle is furnished by the cervical glands. Dr. Tyler Smith observed that the clearness or the opacity, as well as the viscidity of the discharge, its creamy, soapy, gelatinous or ropy appear-

The leucorrhœa merely a symptom.

Varying characters of the flow.

* The Pathology and Treatment of Leucorrhœa, by W. Tyler Smith, M. D., etc., Philadelphia, 1855, page 64.

ance, and indeed all of its physical characters depend upon the alkalinity or the acidity of the secretion with which it is mingled. The acid mucus secreted in the vagina changes the quality of the leucorrhœal fluid poured out from the cervix uteri, as decidedly as it does that of the blood which escapes from the same channel in ordinary menstruation. I think it very important for you to remember this fact.

You will not understand me to say that all cases of this form of leucorrhœa depend upon cervicitis. By no means. There are other causes, such as obliquities of the uterus, the presence of foreign growths, ulceration of the os uteri, granular degeneration, ovaritis and kindred affections even more remote, and which operate in a reflex way, that sometimes originate and perpetuate this discharge by stimulating an undue activity of the glands within the cervix. For the present I must defer their consideration.

Cervical leucorrhœa from other causes.

The dragging sensations about and within the pelvis are not always so marked and severe in this form of cervical inflammation as they are in cervical metritis. For in endo-cervicitis the neck of the womb is not necessarily so tumefied and tender; and we find that the contingent distress and pain in the sacral and lumbar regions vary with the quantity and quality of the leucorrhœal flow, rather than with the size of the cervix. Something depends, however, upon the state of the patient's strength, the duration of the disease, her ability to withstand suffering, or her tendency to exaggerate and overstate the kind and degree of her pain. She is very apt to complain of bearing down sensations, symptoms of prolapse, forcing of the pelvic viscera towards the vulva, and not infrequently of rectal aching and tenesmus whenever she stands upon her feet. Under these circumstances there is an aggravation of the symptoms from motion, pressure, coughing, or sitting down.

Pelvic pains and suffering.

These patients frequently complain also of burning sensations, which are located either within the vagina, at the mouth of the womb, or in the ovarian region. Sometimes the cervix is so displaced and tender that intercourse is very painful. More rarely, however, the unnatural condition of the parts causes an increased sexual desire, which the

Burning sensations.

patient feels must be gratified, even though it be at the cost of subsequent suffering. Straining at stool, or in urination, may cause a flow of mucus from the cervix, and even from the vagina. The bowels are almost always constipated, although in some cases there is an alternation of constipation and diarrhœa. The bladder is more or less implicated, and cystitis, vesical tenesmus, dysuria and retention are by no means infrequent.

Constitutional effects.

Either as a cause or a consequence of the local lesion, the digestion is impaired, the nervous system undermined, and the general health borne down. Among the lower orders especially, such patients are very wretched. They are martyrs to vice, ignorance and self-dependence, to their children and families, to their own improvidence, and not unfrequently to the incompetency of their doctors.

Weakness of the eyes.

A considerable proportion of cases of endo-cervicitis are characterized by impaired vision, or rather by weakness of the eyes and inability to use them. This is true not alone of inflammation of the cervical mucous membrane, but of other diseases of the uterine neck, and perhaps of the ovaries also. For there is an inexplicable sympathy between the inferior segment of the womb and the eyes. I have treated a case of incipient amaurosis which was entirely and promptly relieved by the removal of a small mucous polypus that was found hanging from the external os uteri. Women have in almost numberless instances complained to me of pain, aching and weakness of the eyes immediately after the application of even the mildest lotions directly to the cervix. It is not at all unusual for this symptom to follow copulation temporarily, and in case of immoderate indulgence of the sexual appetite, to become chronic and perhaps incurable. The patient before you had these symptoms in a marked degree, and just in proportion as the uterine irritation and inflammation have been relieved in her case, has the weakness of vision and its attendant symptoms improved. My friend Prof. Vilas, the oculist, informs me, however, that such symptomatic derangements of vision are apt to remain after the primary trouble with the uterus has been cured.

Upon making an examination with the speculum in a case of endo-cervicitis, if the woman has ever been pregnant, you will almost certainly find the cervix uteri somewhat swollen, the os

patulous, and, if the leucorrhœal flow has been copious or long continued, the mucous lining of the canal of the cervix everted. In the virgin, however, and in those who have never conceived, as well as in very mild and recent cases, the tumefaction, the relaxed and open os uteri, and the hernia of the cervical mucous membrane may be lacking, and yet other equally reliable signs may lead you to diagnosticate the case as one of cervical endo-metritis. In other words, the inflammation in this case is limited to the cervical canal, bounded above by the internal os, and below by the external os uteri. I am convinced that endo-cervicitis is much more common among young unmarried women than it is generally supposed to be.

Examination with the speculum.

In the latter class the vaginal portion of the cervix is rarely inflamed. Its investing membrane is not congested, neither is it hot, dry, or especially tender. But in confirmed cases, occurring in women who have borne children, you will observe that the mucous membrane about and within the os uteri is in a state of hyperæmia and of evident inflammation. The nearer the menstrual period the more these parts will be congested, and the more open and dilatable the os tincæ.

In considering the diagnosis of this disease we are led to remark that the most mischievous results have followed the confounding of inflammation with ulceration and induration of the neck of the womb. Dr. Bennett, for example, believes them to be consecutive and inseparable, and, therefore, treats of them as synonymous, if not absolutely identical. Errors in diagnosis, confused ideas of disease, and the careless use of medical terms, are necessarily followed by harmful consequences. For they always reflect the treatment that will be adopted. If I were to teach you that inflammation, induration and ulceration are essentially one and the same disorder, my individual error as a teacher would react against the welfare of your patients and of the community, through you, because it would set you upon the wrong track in therapeutics.

Diagnosis.

Remember, therefore, that the discharge from the uterine cervix of such products as I have described does not imply that there is necessarily any ulceration thereof. Take a pair of speculum forceps, such as I hold in my hand,

Ulceration is incidental.

wrap a bit of cotton about them in this manner, and pass them through the speculum as far as the os uteri. Let them approach the cervix very cautiously. Then turn them over and over, thus, very gently, and you will wind up and remove the stringy mucus just as if it were a spider's web. If this little manipulation is carefully performed, the free surface of the mucous membrane will be left exposed, and you will see at a glance whether you have a case of simple inflammation or of ulceration to deal with. But if you undertake to remove the mucus from the diseased part without this precaution, and mop it away roughly, the delicate vascular surface, more especially the hypertrophied villi will be wounded, and the part so bathed in blood that you can get no very definite idea of the lesion. For the same reason it is best to be careful in the introduction of the speculum, more especially the quadri-valve and cylindrical varieties, lest you injure the cervix and fail in your object.

A practical hint.

Now a simple abrasion of the os-uteri may be, and most frequently is, merely incidental to the endo-cervicitis. The leucorrhœal discharge does not come from the denuded surface, but is derived from within the canal of the cervix. If, however, the ulceration is deep-seated, and granular in character, and especially if the granulations are exuberant, and the patient is scrofulous, a large quantity of pus may be secreted from the surface of the sore.

The flow not from an ulcerated surface.

You will be able to diagnosticate endo-cervicitis from cervical metritis, by the absence of febrile action, and of local tenderness, which almost invariably accompany the latter; by the existence of a leucorrhœa, of congestion of the mucous membrane about and within the cervix, the open state of the os-uteri, the eversion instead of the retraction of its lining membrane, and by its relation to the scrofulous and catarrhal dyscrasiæ. Although these diseases are sometimes found to coexist, yet such a complication is not frequent.

Diagnosis from cervical metritis.

The prognosis should be guarded. If you promise to cure such cases in a given length of time you may be sadly disappointed; for they are by nature chronic and tedious. And there are so many causes which, directly and indirectly, modify the vascularity of the part that is inflamed, and derange and damage its glandular function, that your best inten-

Prognosis.

tions will be thwarted and your best prescriptions often rendered of no effect. Sometimes the sexual instinct and appetite of his patient is a sworn enemy of the physician, that overrules and overcomes his determination to cure her of this disease. Whether spontaneously aroused, or purposely stimulated, or whether it be gratified or repressed, the effect is to antidote and to counteract his efforts, to complicate the case, and to postpone the cure.

The return of the monthly crisis multiplies the contingencies with which this disease is beset. So also the central and dependent position of the womb, and more especially of its neck, and its relation to other organs, both near and remote, all of which tend not only to render the attack persistent and almost perpetual, but to bring on relapses when it has apparently been cured.

Treatment.—Nothing is more common than for young physicians to claim that a few doses of this or that remedy have sufficed to cure a case of cervical leucorrhœa. And this independently of sexual excitement, the monthly exacerbation, and all the drawbacks which are but so many obstacles in the way of their superiors in age and experience. The fact is, their remedies may have been properly chosen, and most appropriate to the case in hand, but in the nature of things it is ascribing too much to them to insist that they are competent to cure such cases so promptly and decidedly. Merely to change the character or the quantity of the flow, or altogether to arrest it, is not to perform a radical cure. For relapses are the rule and not the exception. The doctor may plume himself on his skill in its treatment, and declare his patient well again, but the next day, the next week, or the next month, some exciting cause which is contingent upon her organization, or her position in the family, or in society, may upset all that he supposed he had accomplished, and consequently she is "as bad as ever again."

Of speedy cures.

Most of the exciting causes of endo-cervicitis are avoidable. It will be necessary to remove your patient from under their influence. You will see to it that there shall be no sudden interruption or derangement of menstruation; that her clothing is suitable and sufficient; that her feet are warmly clad and dry; that her skirts are suspended from the shoulders; that there are no ligatures about her body or her limbs; that she is not the victim of excessive sexual indulgence (espe-

Remove the cause.

cially at or near the month), of uterine displacements, constipation, dysmenorrhœa, dysuria, ovaritis, blennorrhagia, rough riding, wearisome exercise, or the wearing of an *abominable* (not abdominal) supporter or pessary.

The need of nourishment.

Both with reference to the prophylaxis and the cure of this complaint, an inherent tendency to scrofulous and catarrhal inflammation should receive your early and constant attention. If your experience shall correspond with my own, you will find that the prime indication with this class of subjects is to have them sufficiently nourished, to bring their assimilative functions and their blood up to the healthy standard. In other words, you must not only stop the drain, whatever it may be, which is exhausting their vitality, but also supply them with such available nutriment as shall more than compensate the waste that has been going on. It may be quite as difficult to select the proper diet, and to arrange all its details to suit each individual case, as it is to select the remedy, but, in my judgment, it is quite as requisite to the cure of the disorder.

A proper diet.

Milk in some form, bread and milk, cream, beef, mutton, oysters, fish, fowl, game, soups and broths of different kinds, if not too greasy, the whites of eggs, and malt liquors, may supply this need. Cod liver oil has benefited some of these cases amazingly. In others the digestion has been improved and the general strength fortified by the use of the acid phosphates. Brandy and whisky are usually interdicted, but sometimes a mild native wine, or the extract of malt, may be allowed. Condiments and coffee are often injurious, while acid drinks are not only grateful but useful also.

Travel and exercise.

Some of these patients will never get well while they remain within doors. Others need a change of scenery and surroundings, and they must travel. And yet another class must be kept in a passive state. But how to fill these indications without harmful consequences is the question for you to decide. When you have regulated all these incidental matters, which I assure you are much less trivial in their bearings than they seem in their recital, the case will be more than "half cured," and you will be prepared to study its special therapeutics.

Excepting for the purpose of cleanliness, vaginal injections are of little avail in this disorder. For unless the mucous membrane that covers the vaginal portion of the cervix is also inflamed, or ulcerated, they do not reach the diseased part. And yet you will find that a majority of those who have already been under treatment for this disease have been in the habit of taking medicated injections of various kinds. With a view to clear the vagina of the unnatural discharges which come from the neck of the womb, to prevent their decomposition, and also, in case the endo-cervicitis is specific, to prevent the inoculation of the adjacent parts with the poisonous flow, we may prescribe injections of Castile suds, or of glycerine and tepid water.

Vaginal injections.

A better means of relief, however, consists in the direct application of pure glycerine to the inflamed cervix. This substance has the power of causing a free discharge of serum from its engorged capillaries, and thus of removing an incidental cause which not unfrequently serves of itself to perpetuate the disease. The determination of blood to the dependent cervix, and its stasis therein, is a prime cause of the excessive and abnormal secretion from the cervical glands. If we relieve this local embarrassment of the circulation, it is like extracting a splinter from the flesh in a case of irritative fever. Moreover, the expedient is simple, available and harmless. It neither interferes with the use of internal remedies nor antidotes them. It has no injurious effect upon menstruation, nor does it entail any reflex or remote consequences upon other organs, which may or may not be implicated. During the past six weeks this patient has had no other treatment. We have not given her a grain or a drop of medicine, and yet she is almost well.

The topical use of glycerine.

A good method of applying the glycerine is to make a firm tampon of cotton, tie a thread about the middle of it to facilitate its removal, saturate it thoroughly with pure glycerine, and introduce it into the vagina after the patient has retired for the night. It should be pushed up against the cervix and left there until morning, when it can be withdrawn. The removal of this tampon will be followed by a more or less copious discharge of a thin serum, which is the pro-

How to apply it.

duct of the "insalivation," as it has been termed. This little operation may be repeated, according to circumstances, from one to three times each week during the inter-menstrual period.

Another method.

Another, and a more direct means of applying this substance is to take such an instrument as this, which is a flat uterine probe, armed with a bit of cotton-wool or soft sponge, saturate it with the glycerine, introduce it into the cavity of the cervix and pass it as far as the internal os uteri. Turn it about gently, and after a few seconds it may be withdrawn, freshly charged with glycerine, and again introduced. Fortunately the open state of the external os, in almost all of these cases, facilitates and even suggests a resort to this topical means of relief. The patient should remain for a time upon her couch, and should not go to ride or to walk for several hours after the application. In very rare cases the glycerine is poisonous to the mucous membrane, and can not be used in the manner directed. You should always be careful to select the best quality of glycerine for internal use.

Calendula, hydrastis, etc.

If the discharge is either purulent or puriform, the tincture of calendula may be added to the glycerine, in the proportion of one drachm to two ounces each of glycerine and distilled water, and applied locally. Or the hydrastis, hamamelis, arnica, or baptisia, may be used in the same way. In exceptional cases, occurring in strumous subjects, and which are very chronic and intractable, one drachm of the tincture of iodine may be mixed with two ounces of glycerine, and applied with a camel's hair pencil to the canal of the cervix. I have sometimes used the oleaginous collodion with the best possible results.

Intra-cervical injections.

Although, as I have already said, in endo-cervicitis the internal os uteri is in most instances closed, yet because it might possibly be agape, or readily forced open, it is not safe to resort to injections thrown into the cervix, lest the fluid pass into the womb, and even into the abdominal cavity.

Pessaries.

No matter what the variety or the degree of the uterine displacement in this disease, every species of mechanical support is more likely to do harm than good. The only pessary that I ever employ in these cases is the

saturated tampon, of which I have just spoken, which some of my patients wear whenever they are upon their feet. Exceptionally the perineal strap or pad is palliative, and will permit of moderate locomotion and of riding out into the fresh air. But the ordinary supports, and especially the stem-pessaries, are absolutely harmful in the treatment of those uterine deviations which are incident to this form of endo-metritis.

Compression.

In very tedious cases compression of the inflamed mucous membrane exerts a salutary influence, not only in lessening the copiousness of the flow, but in curing the lesion upon which it depends. For this purpose the carbolized sponge tent may be introduced from time to time, and left *in situ* for some hours. Or the other varieties of tent may be preferred. Simpson's ebony bougies sometimes answer equally well. Medicated bougies and suppositories are not of any especial value in endo-cervicitis. Compression would, however, be harmful, excepting in chronic cases of this disease, and should always be used with caution.

Escharotics.

Concerning the employment of caustics in the management of this disease, they certainly are no better indicated than they would be in nasal catarrh, influenza, catarrhal ophthalmia, or a "cold in the head." It would be just as reasonable, and equally efficacious, to apply the nitrate of silver, or chromic acid indiscriminately, in the one case as in the other. Physicians succeed in curing bronchial, renal and intestinal catarrh without the topical use of alum, the acetate of lead, or even of carbolic acid, and why should they claim that a similar inflammation of the mucous membrane within the uterine cervix is not, and can not also be responsive to milder means of cure? Theoretically, the adherents of the Bennet school are certainly wrong in their deductions; practically, I believe, they are working more mischief (unwittingly, to be sure) than any equal number of physicians, of whatever denomination, the world over. For what excuse can there be for converting a case of simple endo-cervicitis into one of open ulceration of the os uteri, in order to cure it? And how shall the intelligent physiologist excuse himself to his own conscience for sealing a discharge from the neck of the womb, regardless of the consequences that may be entailed upon his patient?

I have long been of the opinion that, in the selection of the constitutional remedies for this form of leucorrhœa especially, the physical characters of the flow, as it is ordinarily obtained, have been considered more important and suggestive than the facts of the case will warrant. The usual mode of noting the peculiarities of the discharge which comes from the cervical canal is fallacious. An albuminous secretion, which is alkaline in its reaction, is subject to contact, succussion, retention and admixture with an acid mucus in the vagina, which changes its properties in many respects, if it does not alter it entirely, after which the product is recommended to be taken as a criterion of the actual lesion, and a guide in the choice of the remedy. Under these circumstances, nothing is more natural than that the flow should become white, watery, milky, opaque, cheesy, curdy, yellowish, brownish, flesh-colored, or even greenish. And, since the conditions which give rise to the varying qualities of the leucorrhœal flow (in endo-cervicitis, or uterine catarrh), are purely accidental, and contingent upon the passage of that flow through the vagina, I feel like insisting that they are not to be depended upon as therapeutical data.

A fallacious practice.

Take a parallel case. Suppose that, in nasal catarrh, the discharge were first subjected to the action of the vaginal mucus, or to any other acid mixture, and afterwards submitted to you as representing the proper pathological product itself, what kind of an idea would you form of the disease in question? And suppose, farther, that a physician should insist that, after such manipulation, the color and other characters of the discharge would indicate the remedy, what would you think of him?

Now, I propose, that in order to obtain a correct idea of the secretion which is poured out by the cervical glands in uterine leucorrhœa, we should not trust to the patient's version of the matter, neither to our own examination of the flow, when it has been mingled with the vaginal mucus, but that, in order to examine it properly, we should take the discharge directly from the cervix uteri itself, as well for curative as for diagnostic reasons. Then, as in nasal catarrh, we would have the original product unchanged, and whatever we could learn from it that would help us to differentiate between remedies would be much more satisfactory and trustworthy

Rule for examination of the flow in *cervical* leucorrhœa.

in every respect. And I do not know why a leucorrhœal secretion should not be thus carefully inspected from time to time, as we examine the sputa in pneumonia, or the urine in a case of Bright's disease. Moreover, it should be done in the same manner in making our provings.

Natural secretions and abnormal discharges.

I apprehend that the varying qualities of a natural secretion, as, for example, the menstrual blood, the urine, or the perspiration, as these fluids are influenced by disease, afford a much better criterion of the structural and functional conditions of the organ or organs involved, than do the physical properties of products which, like the sputa, diarrhœic discharges, and the cervico-leucorrhœal flow, are in themselves morbid. If this is true, they also supply us with a better guide in the selection of our remedies.

The physical properties of the flow in *cervical* leucorrhœa are many of them too fickle and varying to be possessed of the practical significance which has been ascribed to them. The leucorrhœa itself is but a symptom, and to divide and subdivide it, is perplexing to one's patience, and sometimes too transcendental to be of real use. If cures have been effected (and they undoubtedly have), when remedies for cervical leucorrhœa have been prescribed on these shadowy indications, the result must be attributed to the fact that they were accidentally suited to the relief of the more cardinal and essential conditions underlying those symptoms. We may, therefore, depend upon them only when we can not do better.

In *vaginal* leucorrhœa, however, the thickness, thinness, tenuity, color and peculiar character of the discharge, are more distinctive and significant. If it has acrid or corrosive properties, we should give this clinical fact its proper interpretation. For, excepting in case of malignant disease of the womb, as in medullary cancer, cauliflower excrescence, and the like, this kind of flow never comes from the cervix uteri. Where both these varieties of leucorrhœa co-exist, as they sometimes do, you will generally succeed in curing the vaginal form first, and that which depends upon endo-cervicitis afterwards.

If you can trace the origin of an attack of cervical endo-metritis to "taking cold," or to an epidemic influenza, no matter what length of time has elapsed since the disease set in, you will do well

to prescribe the remedy or remedies that would have been suited to the primary disorder. Whatever remedy would have cured the "cold," the influenza, or the catarrhal fever, upon which the endo-cervicitis is secondary, may suffice to cure its remote effects and to help your patient out of her difficulty.

Practical hints.

Due notice must also be taken of the catarrhal dyscrasia, as it might be termed, and of the scrofulous and the syphilitic diatheses. So, likewise, of a predisposition to biliary derangements, whether it be chargeable to inherent peculiarities, or to the accidental circumstances of climate, season, an improper diet, or malmedication. In this climate the consideration and study of these utero-hepatic complications are indispensable. But above all, you will look for the most prominent and trustworthy indications for your remedies in those symptoms which are connected with and depend upon certain coincident derangements of ovulation, menstruation, and of the digestive, the respiratory, the circulatory and the nervous systems, and also of the bladder and the rectum. If you will adhere closely to this method of selecting the remedy in this class of cases, it will enable you to distinguish the true symptoms from those which are only incidental, and perhaps fallacious.

Thus, if the prominent symptoms complained of are referable to *ovarian irritation*, inflammation, or derangement, they might indicate belladonna, atropine, apis mel., colocynth, phosphorus, alumina, platina, china. hamamelis, pulsatilla, zincum val., lachesis, caulophyllin, lilium tig., conium, podophyllin, bufo, or some kindred remedy.

For reflex ovarian disease.

Or, if some *menstrual embarrassment* or difficulty gives a particular stamp, or character, to the symptoms, it may be indispensable for you to study the pathogenesis, and the published experience of the profession with bovista, secale cor., sabina, alumina, ferrum acet., calcarea carb., lilium tig., baryta carb., sepia, pulsatilla, ammonium carb., phosphoric acid, senecin, cocculus, helonin, cantharis, or xanthoxylum.

For contingent disorders of menstruation.

For the *digestive complications* the more common remedies are nux vomica, chamomilla. arsenicum alb., mercurius, graphites, lycopodium, colocynth, veratrum alb., aloes, opium, sepia, carbo veg.,

For utero-digestive complications.

collinsonia can., china, sulphur, hydrastis can., the citrate of iron and strychnia, kreasotum, plumbum, pulsatilla, alumina, natrum mur., podophyllin, æsculus hip., nitric acid, and nux moschata.

In utero-pectoral and respiratory ailments.

For those which implicate *respiration:* phosphorus, bryonia, sanguinaria, calcarea phos., calcarea carb., silicea, lycopodium, stannum, tartar emetic, lachesis, hyoscyamus, drosera or dulcamara.

In coincident disorders of the circulation.

For symptoms connected with the *local and general circulation:* veratrum vir., bryonia alb., stannum, apis mel., digitalis, cactus grand., aconite, gelseminum, veratrum alb., naja trip., or belladonna.

In utero-hysterical and nervous complications.

For the *nervous* symptoms, especially in those who are liable to Hysteria, almost any remedy in the Materia Medica might be required. Most likely, however, you will find what you want under the head of hyoscyamus, ignatia, coffea, moschus, caulophyllin, lilium tig., belladonna, atropine, cocculus, gelseminum, cimicifuga, causticum, chamomilla, agaricus musc., sulphuric ether, senecio, tarantula(?), scutellaria, or cypripedium.

For utero-vesical suffering.

If the *vesical* symptoms are the more painful and prominent, you should consult the class of remedies most frequently and commonly employed in the treatment of diseases of the bladder and urethra. This class includes cantharis, cannabis sat., dulcamara, belladonna, apis mellifica, mercurius, hyoscyamus, camphora, ferrum, chimaphila umb., and the eupatoreum purpureum.

For the utero-rectal symptoms.

When the *rectal* troubles predominate, we have aloes, podophyllin, nux vomica, sulphur, hamamelis, collinsonia can., and the æsculus hippocastanum.

Conclusion.

Do not understand me as recommending that these remedies shall be given consecutively, or without discrimination. In classifying them my object has not been to supersede the necessity for their differential study and adaptation, but to indicate the variety of symptoms which, in the treatment of this vexatious disorder, do really afford the most trustworthy guides in the selection of our means of cure. For almost every one of them has some especial relation to diseases of the uterine cervix.

CERVICAL ENDO-METRITIS.

Case.—This woman is 30 years of age, she had one child which is now eight years old, and has had no miscarriage during that time. The ninth day after her confinement she got up, but was obliged to again take her bed, because of prolapsus of the womb. Previous to the birth of her child she had some spinal trouble, which was much aggravated after confinement, and her physicians diagnosed an abscess on the back over the right hip—for which the hot iron was used and this was kept open for one year, for three years following she was confined to her bed. She now complains of constant back-ache, and bearing down pain for a week previous to the flow, which is irregular, but scanty, lasting but one or at most, two days, and is followed by sick-headache. The left leg gets numb if she lies on that side, and is worse in damp weather. On local examination, we find the uterus prolapsed, lying but one inch within the vulva, also a partial laceration of the perineum, the os is large, patulous, and is button-hole shaped. The cervix is swollen, red, and very tender, she has no leucorrhœa. The sound passes without obstruction, and there is no subinvolution. Tartar emetic 3, three times a day.

The points in this case are the non-increase in the depth of the womb; the scanty menstruation; the enlargement of the body of the cervix as a complication; the expulsive uterine pains in advance of the flow; the prolapsus uteri; and the numbness of the left leg. Each and all of these symptoms are referable to the hyperplasia of the neck of the womb and to the rent in the perineum. If the laceration of the cervix played an important part in this case there must have been subinvolution with chronic metritis, and possibly cellulitis, and menorrhagia.

PART SIXTH.

THE DISEASES OF LACTATION.

LECTURE XXIX.

ABSCESS OF THE MAMMARY GLAND.

Burrowing abscess of the mammary gland with a sinus—on weaning a child, and the subsequent treatment of the mammary glands—Galactorrhœa—Excoriated nipples.

Although the diseases of lactation belong more properly to the Puerperal department of the Hospital, in which I shall speak of them at the bed-side, there are some of the more common of these affections that will come into our general clinic. Prominent among them are such as are due to over lactation, non-lactation, lactation which is co-incident with menstruation, sub-acute and chronic abscess of the mammary gland, and excoriated nipples. It happens that we can show you a number of such cases this morning. The first on the list is one of burrowing abscess of the mammary gland with a sinus. This is a very unfortunate condition, and one that will draw upon your patience in a peculiar manner. You will, therefore, observe its symptoms carefully.

Case.—Mrs. ——, aged 28, has two children, the youngest of which is three months old. She complains of a "gathered breast," which began to trouble her seven weeks ago, or when the babe was five weeks old. She first noticed what appeared to be a small "cat-boil" on the right breast, which was not very painful and did not in the least interfere with nursing. It, however, continued gradually to increase in size, and to become more tender. Three weeks ago her physician advised that it should be poulticed and afterwards freely lanced. The former part of the prescription was tried, but she would not consent to its being opened. As a consequence, the abscess broke at the end of another week, and although it seemed but a small affair, discharged a large quantity of healthy pus. The orifice through which this fluid escaped has

continued to enlarge until it is now about the size of the nail of my index finger, and, only yesterday, she was startled by discovering that whenever the child nurses, or she swallows anything, and sometimes when she moves the right arm, the milk escapes quite freely from it. Two days since, another "boil" made its appearance at the lower and outer margin of the same breast, and now, you see the hardened, smooth, glossy and convex outline of the surface at that point, as the redness, and also the pain of which she complains, indicate that the suppurative process is still going on. She is weak and feeble, with slight hectic, unrest, anorexia, and is withal very much discouraged.

Unless it be located in the loose cellular tissue about the nipple, the mammary abscess which points like a boil is apt to be a serious and deep-seated one. This is especially true if the local and constitutional symptoms indicate that the gland has been inflamed for a considerable time. Under these circumstances, pus may form and collect at the base of the breast, or in the areolar structure that separates the lobules, long before there is any external sign preparatory to its escape. The size of the abscess proper is, therefore, no criterion of its extent or gravity. Boils situated about the margin of the breast, and especially at its lower border, not unfrequently give vent to the contents of a burrowing abscess which may have existed for some weeks, and committed great havoc with the gland itself. There may be only one of these, but usually there are two or more which ripen successively.

We occasionally meet with superficial abscesses that only involve the integument covering the gland, but these are not necessarily, or indeed frequently, seen in nursing women. They occur in young girls, in consequence of tight lacing, the wearing of hard and unyielding pads over the breasts, or of bruising those organs in some accidental way, and scarcely deserve the name of abscess.

The form of milk abscesses of which this is an excellent illustration, is peculiar to depraved conditions of system which constitute a species of cachexia. They are very prone to become sinuous, and the canals which are formed may be either superficial or deep-seated, running through or beneath the gland in every direction. Multiple abscesses may communicate in this manner. Unless relieved by proper means, these sinuses may even become fistulous. It has happened that the entire mammary gland has been destroyed and discharged through these openings.

In the case under review, the extravasation and escape of milk is caused by a rupture of one or more of the proper lactiferous ducts, which are compressed during suckling, deglutition, and also when the arm is moved. It is hardly necessary to remind you that these symptoms require immediate relief, else they may persist and increase in severity until they destroy the patient's life.

Treatment.—I have more confidence in phosphorus and silicea than in any other remedies for sinuous and fistulous abscesses of the mammary gland. It is best to give them separately. Perhaps you will succeed more frequently with the former than with the latter. They should be given in the sixth, or a higher potency, and the dose repeated every three to six hours. It has been claimed that the local application of the tincture of phoshorus in tepid or cool water is very serviceable also. The phosphorated oil of the shops will sometimes answer an excellent purpose as an external application.

My practice has been, in most cases of this kind, to resort to the topical use of granulated sugar, which is a simple and unobjectionable domestic remedy. Applied directly to the surface of the ulcer at the mouth of the sinus, whence the pus or milk, or both these escape, it stimulates fresh, healthy granulations, and closes the unnatural outlet. It operates kindly and speedily, is a good antiseptic, and is always available. It may be insinuated into the canal without doing any possible harm, or causing severe pain.

A domestic expedient.

If this simple expedient fails, you may inject a weak solution of tincture of calendula into the sinus by means of a clean urethral syringe. And the same solution may also be applied over the ulcer at the site of the abscess. Calendula is sometimes wonderfully efficacious where there is considerable loss of the integument, and where an extravagant quantity of pus is formed.

The old plan of slitting up these sinuses with a knife was cruel, barbarous and unnecessary. It is undoubtedly true that, in a majority of cases, these deep-seated abscesses once formed would seldom become sinuous and fistulous if they were promptly and properly opened, but this fault does not justify the subsequent slashing and hacking of these delicate organs. There is a proper time for all things, including the lancet. And the same is true of the caustic and astringent

The knife.

injections which have been thrown into these passages heretofore.

As in other abscesses that involve a considerable drain upon the patient's strength, we must counteract the loss and fortify against it. This woman should have a good, nourishing diet of eggs and lean meat. Beef is preferable, and may generally be taken in the solid form. Of all vegetable substances which are appropriate to cases of this kind, oatmeal is best. Bread made from unbolted wheat flour, — thus securing the phosphorus which is contained in the hull of the grain, — is also advisable. According to Agassiz's theory concerning the large relative proportion of the same element in fish, we may sometimes select from this class of food. The fish should also be lean. Fresh air and sunlight, with freedom of the mind from all harrassing cares, are excellent and available tonics.

A good diet.

Mrs. —— will take of phosphorus 6th, a dose every four hours during the day. The granulated sugar to be applied twice daily, The diet to consist of brown bread and butter, and rare roast beef, with dry, mealy potatoes. She must nurse her babe from the left breast exclusively. The right one should, however, be well drawn by means of a breast-pump each morning and evening, and then kept soft and warm. Let her report at the end of a week.

ON WEANING A CHILD, AND THE SUBSEQUENT TREATMENT OF THE MAMMARY GLANDS — GALACTORRHŒA.

Case. — Mrs. Z——, aged 30, applies for advice concerning the propriety of weaning her child, and likewise for instructions relative to the best method of procedure if this expedient is deemed proper. The baby is eleven months old, and healthy in every respect, not having had a day's sickness from its birth. The mother's health is also excellent. The milk is furnished in good amount and quality, and although she really dreads to wean the little one, she will nevertheless do so if it is thought best. By the advice of her former physician she nursed an elder child, now four years of age, until it was eighteen months old. Her infant feeds well, and, if it were allowed, would eat almost anything. It has a mouthful of teeth. She fears that when she takes it from the breast altogether, she may have trouble with the glands them-

selves. For she is somewhat peculiar in this respect, that with her the milk continues to be secreted for a long time after it has ceased to be regularly drawn off. Thus when she weaned her little girl, two years and a half ago, the milk "continued to come into the breast," as she says, for four or five months longer, her menstruation being quite regular meanwhile. And following an abortion, that she once experienced at the fourth month, she had a considerable flow of milk for the space of nearly six months. For this reason she feels exceedingly anxious to know what course is the proper one.

In the practice of your profession you will be frequently consulted in cases similar to this. You will observe that some mothers apply for professional sanction to wean their children early, and, indeed, that many of them prefer not to nurse their babies at all. These most unnatural and baneful practices are, unfortunately, becoming more frequent. In all our cities and towns—and in these days of railways and telegraphs there are no more country villages—the custom of rearing children at second-hand, or by proxy, is becoming more and more popular and prevalent. The most silly pretexts are preferred by people in fashionable life for denying the little infant the mother's breast. One such mother will decline to ruin her bodily form and figure by nursing her own child, another considers it vulgar, a third is too much of an invalid herself, while a fourth is unwilling to sacrifice the pleasures of the table, of the toilet, or of gay and fashionable society, of late hours, or of some favorite form of dissipation, for the cares and crosses of maternity. Among women of the great middle class of society there is a growing aversion to what is both natural and necessary for the welfare of their delicate offspring. For the most trivial, and even shameful reasons, too many little innocents are thus denied their most appropriate aliment. The consequence is that a large share of American mothers never experience those reflex influences that would tend to soften and sweeten their own natures; and that thousands of children are poisoned by all sorts of artificial substitutes for healthy human milk.

Fashionable pretexts for the indiscriminate weaning of infants.

Another class of mothers place a premium on the luxury of nursing their own children. They are never quite ready and willing to wean them. If your future observation accords with my own, you will have reason to conclude that, with many members of this

class, the pleasure derived from the performance of this very natural function constitutes the chief enjoyment of their married life.

Not unfrequently, however, there is another reason for the resolve on the part of these women to prolong the period of lactation. As a rule, menstruation is suspended until the child is taken from the breast. This they all know as well as we do. They are also aware that, while the nursing woman does not menstruate, she is not very likely to conceive again. Hence many mothers voluntarily continue to suckle their children beyond the proper time, in the hope that they may thus avoid too rapid an increase in the family. But since there are many exceptions to the rule that a nursing woman may not become pregnant, and more especially because the health of the child, and of the mother also, may be injured thereby, it will become your manifest duty, in some cases, to insist that this practice shall be relinquished.

Ill effects of too prolonged lactation.

As a rule, if both the patient and her child are well, the little one should not be weaned before it is about a year old. After this period the mother's milk becomes deficient in casein, — a physiological reason why lactation should not be prolonged. In deciding upon the most proper time for taking the children from the breast, something depends upon circumstances. If, for example, the little thing has cut its teeth freely and early, and manifests a disposition for a mixed diet, being ready and eager to eat almost anything that is offered, there will be little risk in weaning it. It will, however, be more safe for the child to cease nursing in cool or cold weather, as in the fall or winter, than in the late spring or early summer months. If a severe epidemic, more especially any alimentary disorder, such as cholera infantum or dysentery, is prevalent among young children, you should counsel the mother to wait until the epidemic has subsided before she puts her child away. The almost utter impossibility, in our larger cities, at certain seasons, of procuring good, healthy cow's milk for the infant, may afford another valid reason for prolonging lactation even beyond the twelfth month. Statistics prove that after the ninth month, weaning is more apt to be followed by mammary abscess than at any period between the second and ninth months.

The proper time for weaning.

In the case in which we have just been consulted, the child's age

is favorable, it has its complement of teeth, eats well, and is thrifty in every regard; the season (November) is propitious; and there is no disease which at this time is especially prevalent among infants and young children. We therefore advise that this woman's babe be weaned.

Treatment. — And now the question is fairly before us; what course is most proper for the mother? In her case there is a manifest predisposition to a profuse and prolonged secretion of milk. Ordinarily the quantity of milk secreted is in proportion to the frequency with which the breast is drawn, or emptied; the more it is nursed, the greater the yield. But in this case a profuse flow is furnished by the gland, although none of the product is forcibly withdrawn. Here there is a danger lest the milk may accumulate and give rise to inflammation, and, ultimately, to mammary abscess. Hence we must, if possible, institute measures that will avert such a calamity. For it is a species of martyrdom for any woman to suffer from an abscess or abscesses of the mammary gland, and we should use our best endeavors to spare her such an infliction.

Where, as in this instance, the flow of milk is very profuse, and especially if the child is several months old, I think the wiser course is to wean it gradually — say to nurse it only at night for a time, and to feed it during the day. This plan will prevent the accumulation of a very large quantity of milk in the breasts, and also allow the general organism to accommodate itself to the new condition of things, points which are in some cases most significant. If the mother stops nursing abruptly, there will be greater risk of local trouble, and of a general derangement of her health, than if the change is less sudden and extreme.

Prophylactic treatment.

This rule, which has its exceptions, is also applicable in case it becomes necessary to wean the child at a very early age. In general, however, it is thought advisable to put the infant away from the breast at once, as less troublesome than gradual weaning. Afterward, if the ducts become obstructed, and the glands distended, hard and painful, a resort is to be had to some artificial means of emptying them, and of averting farther trouble.

Medicines which are believed to have the power of lessening the quantity of milk secreted are termed *Antigalactics*. They are used both internally and externally. Of those which are adapted to internal use the more

Antigalactics.

prominent are belladonna, bryonia, calcarea carbonica, and phosphorus. Besides these, other remedies are suited to lessen a redundancy of this flow, when it is attended by peculiar symptoms, all of which are lacking in this case. For, Mrs. Z. is not ill at the present time, and the most diligent search might fail to disclose a single symptom of an abnormal condition. Our treatment must, therefore, be prophylactic. It should be designed so to diminish the quantity of this secretion as to insure the breasts against local disease or injury, and the general system from all contingent disorders. To fill this indication I have more confidence in the calcarea carbonica than in any other remedy. I prefer it in the third decimal trituration. Your future experience may cause you to decide in favor of some other form or potency of this remedy. This is a matter which cannot be settled for you in the lecture-room.

The age of the child a criterion of the danger of mammary abscess.

In general, the younger the child the greater the danger of mammary abscess from weaning it. There are, however, exceptions to this rule also, in which it is almost or quite impossible to take the child from the breast at any period without incurring the risk of this accident. When a physician tells you that he has always been able to avoid such a result in his practice, you may safely conclude that he has been unusually fortunate, or that his observation has been limited.

Local applications.

Local adjuvants are not only admissible, but, in certain cases, necessary also. Most practitioners prefer camphor for this purpose. Cloths may be wet with the common tincture and applied directly to the breast. Or it may be anointed with a mixture of camphor and sweet oil — the camphorated oil of the shops. A saturated solution of camphor in glycerine makes a more pleasant and equally useful preparation, which may be kept constantly applied over the gland by means of flannel compresses.

Several of my medical friends assure me that they have derived the most satisfactory results from the topical employment of cold water, as a preventive against mammitis and mammary abscess in cases of this kind. I have no experience therewith. They recommend to apply a wet compress directly over the gland, and to protect the clothing by a dry one outside. This is to be renewed from time to time, the water being at the temperature of ordinary

well or hydrant water. They claim that the faithful use of this simple means will spare much subsequent trouble to all concerned. Another method consists in covering the breast with one or more layers of flannel, and then applying a bladder which is partly filled with broken ice. Persistent rigors and chilliness, however, contra-indicate the use of cold applications of all kinds.

A stimulating lotion may also be made of black pepper (*Piper nigrum*), by permitting it to stand for a considerable time in good brandy. The pepper should, however, be in the grain and not ground, or pulverized, otherwise, by insinuating itself into the delicate skin, especially in the region of the areola, it might occasion much suffering. This lotion may be applied in the same manner as recommended for the glycerole of camphor.

In inflammatory cases in which the pain and throbbing of the gland are severe, or if the pains are neuralgic, the application of the belladonna plaster will sometimes afford the greatest possible relief. It may serve not only to abort the suppurative process, but also to put a stop to the further secretion of milk. This expedient seems especially adapted to those cases in which it is advisable, directly after labor, to institute measures for the prevention of a free flow of the lacteal product. Dr. Marley recommends to smear the breast with the extract of belladonna.* He has employed this treatment for the prevention of mammary abscess with almost uniform success in 44 cases, in which a prompt arrest of the lacteal secretion was necessary.

When the breasts are large and flabby, the extra weight may be relieved by a broad handkerchief, a net-work supporter, or by strips of adhesive plaster properly applied. These plaster-strips are sometimes used to secure uniform compression of the glands, and thereby diminish their secretion. The bandage of Seutin has been extolled for the same purpose.

Means of support for the breasts.

Our patient should abstain from soups and all kinds of liquid food, and satisfy her appetite chiefly with solids. It would not be best for her to drink largely of any fluid whatever, more especially of water or malt liquors. She will take a dose of the calcarea carbonica every night, and apply the camphorated oil externally.

The proper diet.

* Transactions of the Obs. Society of London. Vol. I., p. 31.

EXCORIATED NIPPLES.

The next case on the list this morning is one which has come as an inheritance from the puerperal state, and which will have its counterpart to your experience as general practitioners. It will afford you a good illustration of a class of cases which some wise physicians and nurses consider to be always preventable, but which will happen now and then in spite of the greatest care and precaution. It is a case of excoriated nipples, and, when we consider the delicate organization of the part involved, its peculiar function, its liability to traumatic injury, its exposure to the action of the mucus from the mouth of the infant, and to the heat and suction that are applied, the marvel is that such lesions are not more frequent.

Cases of this kind are sometimes very difficult of cure either because the patients general condition favors their becoming chronic and intractable, because there is some trouble of the gland behind them, and of which they are the outlet, or because of the necessity of putting the babe to the breast often enough to empty it and nourish the child.

Case. — Mrs. G.'s third child is but four weeks old. This babe is a fat hearty boy, while the mother is slender but of general good health. She reports having passed through her lying-in without any serious illness. She has, however, suffered extremely from sore or excoriated nipples. This trouble began immediately after the appearance of the milk, on the third day after delivery, and has continued until the present time. She says that she could "get on very well, but that each time after nursing, the nipple is left raw and bleeding;" and that "when the little fellow lets go his hold, it almost takes her life." She had a similar experience with each of her former children, from which, despite all the means employed, she did not recover until they were weaned, at the age of three months.

This is by no means a trivial case. In private practice you may encounter forty of them for every one like that upon which my brave colleague, the professor of surgery, has just performed a capital operation. And, unless you know how to treat them, each one may give you forty times as much trouble. Although the nipple may be accidently torn off by the child, you will not

be permitted to dispose of this troublesome member by amputation.

Sore nipples are more frequent in primiparæ than in multiparæ. There are those, however, who, like our patient, suffer from them with each successive pregnancy. The affection sometimes begins during the later months of gestation, but usually not until the child has been "put to the breast" a few times. If the skin covering the nipple is very tender, thin and delicate, the first attempts at nursing may increase its sensitiveness or strip off the epidermis in some places. The more vigorous and voracious the child the greater the danger in this respect. In women with light complexions, and light or red hair, the cuticle is very delicately organized, and easily removed. There is a popular idea that, because they are stronger and more rough in their little manners, boys are more apt than girls to wound the nipple while nursing. There is little doubt but that this painful affection is sometimes due to the removal of the sebaceous matter from about the nipple by the mouth of the infant. In other cases the nipple is bruised by the gums. Or it may arise from a lack of cleanliness, or from not drying the nipple so carefully as should be done after nursing. Sometimes it may spring from a depraved or cachectic condition of the general system, chargeable to original organization or to the drainage which is consequent upon gestation. Again, it may be caused by an aphthous condition of the child's mouth, whereby it has been inoculated with a poisonous principle. In exceptional cases the child may be syphilitic, and the erosion of the nipple will be found to present some specific peculiarities.

Most frequent in primiparæ.

Local and general causes.

The first symptom complained of is a burning or scalding of the nipple when the child takes hold of it, or upon its removal from the breast. This sensation may be accompanied or followed by pain which is more or less acute. Sometimes the nipple, and again the whole breast, feels as if bruised. Or they may be the seat of acute, lancinating or stinging pains. In some instances the mother can scarcely persuade herself that her nipple has not really been torn off by the child. The torture of nursing the infant is sometimes very great. A fissure or chap in the skin, which is scarcely visible to

Symptoms.

the naked eye, may be sufficient to cause the most extreme and exquisite suffering. Women of the utmost courage and fortitude are not unfrequently brought to tears by this experience. Occasionally the weak and irresolute, more especially those who desire an excuse for weaning the child, refuse to nurse it after a few trials.

Upon careful examination we may, perhaps, find that a considerable portion of the nipple has really been denuded of its investing cuticle. This excoriation is generally most marked at the free extremity and apex of the organ. It may arise from the warmth and moisture of the child's mouth, which seem as it were, to blister it and to separate the scarf skin from the delicate derm beneath. These abrasions may be either superficial or otherwise, according to the length of time that has passed since they commenced, and the lack of cleanliness or of proper treatment. They sometimes develop into broad ulcers, which are exceedingly vascular and irritable. They are slow to heal, because the reparative material thrown out is apt to be washed away or removed by the child before it is fully organized.

The excoriation.

Not unfrequently the fissures will be found to consist of long, narrow, linear ulcers, which are deep-seated and intractable, and which bleed easily. These ulcers may dip down into the nipple perpendicularly from its summit, or they may take a transverse direction, and finally cut off one-third, one-half, or the whole of the organ. They are exceedingly painful, particularly when exposed to the air, and in case the lips of the fissure, or hair-like ulcer, separate from each other. They may even become fistulous. The symptoms are aggravated by each attempt at nursing. The discharge from the abraded surface, or from the fissure, soon dries upon the nipple and forms a scab, beneath which pus is sometimes collected in considerable quantity. The injury done to the nipple by the nursing process may cause it to bleed so freely as to sicken the child and induce vomiting.

The ulceration.

In exceptional cases this affection may begin with an herpetic eruption about the nipple. The little vesicles are broken, and the almost constant irritation of nursing causes them to develop into ulcers, which finally coalesce and give rise to symptoms such as I have already detailed. At other times it is the

outgrowth of a species of scorbutic cachexia, and accompanies the nursing sore mouth.

Perhaps the most serious consequence of excoriated nipples is the danger of mammary abscess, which may result in any case from a lack of determination, or from neglect on the part of the patient and nurse, to have the breasts well and frequently drawn. The milk accumulates, the gland becomes painful, indurated and inflamed from over-distention of its ducts. The suppurative process is soon established, and constitutional and local symptoms of a grave character follow. It is in this manner that the worst examples of mammitis and mammary abscess may be indirectly referable to an erosion or ulceration of the nipple. If the patient is addicted to the wearing of tight dresses, this unfortunate result is all the more likely to follow.

Mammary abscess from sore nipples.

Treatment. — As prevention is better than cure, so we may save trouble by the use of expedients which are designed to prevent the possibility of the nipples becoming sore. They may be "hardened" by applications of a weak lotion of the tincture of arnica, of alcohol and water, of brandy and water, of a linen cloth constantly wet with rum, by a wash consisting of equal parts of the tincture of myrrh and rose water, by bathing them in port wine, in green tea, or in a mixture of three parts of green tea with one of brandy. Or you may direct the use of a cerate of white wax and butter in equal proportions. In the case of primiparæ, simple prophylactics of this kind are especially serviceable in the later months of pregnancy. Care should be taken that the clothing over the breasts is not too warm and tightly fitting. It should be light and thin, especially during the last month of gestation. These precautionary measures are also suited to those who have suffered from sore nipples on previous occasions, and in whom, if possible, it is most desirable to avert such a calamity in the future.

Prophylactics.

Here, as everywhere else in the practice of your profession, you will find great need of discrimination. For although these and other expedients are useful and harmless, when properly applied, they may work mischief if wrongly used. And while too much blame is frequently laid at the door of monthly nurses, it is still true that they do a great

Need of discrimination.

deal of harm by resorting to traditional specifics of whose real properties and powers they are ignorant. An eminent author says: "Most nurses, indeed, possess a catalogue of nostrums — never-failing cures — for chapped or ulcerated nipples; and I think many of the most distressing cases of the kind we meet with are occasioned by these busy characters taking the management on themselves, and, as is usual with the ignorant, relying implicitly on the virtue of their favored *specific* alone, without attending to the necessity either of protecting the nipple, or of duly evacuating the breast."

Watch the nurse.

If there is simple abrasion of the nipple, it may suffice to have it carefully cleansed and then dried with a tuft of soft linen or charpie, as soon as the child is taken from the breast. Then apply a cold mucilage of slippery elm, or, if there is much heat and burning, small cloths wet in cold water. Or the nipple may be dusted with some finely-powdered arrow-root, starch, gum arabic, borax, or white sugar. Or the oil of sweet almonds, arnica oil, simple cerate, or the spermaceti ointment, may cure the case by the exclusion of air and moisture.

For simple abrasion.

If there is aphthous ulceration, borax, hydrastis, baptisia, or one of the mineral acids diluted with cool or cold water, may be applied topically. In some cases simple rose water answers equally well.

For aphthous ulceration.

The nitric, phosphoric, and muriatic acids are also curative in case of fissures, chaps and linear ulcers of the nipple. The organ should be cleansed and dried after nursing, and a weak solution of one of these acids in water and glycerine applied with a camel's hair pencil. Some physicians place great confidence in a lotion composed of an alcoholic solution of gum benzoin and glycerine in equal parts. A domestic expedient of real utility in some cases consists in the application of the oil which may be expressed from the yolk of a hard-boiled egg. Or a species of flexible varnish may be extemporized by rubbing four parts by weight of the yolk of an egg with five parts of glycerine in a mortar, and applying it over the whole nipple.

For the linear ulcers.

Dr. Simpson recommended the topical use of collodion; but this is painful, and seldom answers very well. The mixture of collodion and castor oil extolled by M. Latour might be less severe and more efficacious. Some practitioners prefer the arnicated collo-

dion. Others the cerates of graphites, or calendula. A popular and efficacious remedy in some cases is the mutton marrow. In obstinate, chronic cases, the nitrate of silver in stick or solution carefully applied will stimulate granulation and close the ulcer. Or you may bring the edges of this linear ulcer together and secure them in contact by bits of adhesive plaster properly adjusted. For this purpose the flexible plaster which is spread upon silk is preferable to the old variety.

If the child nurses directly from the nipple, or, in other words, if a shield is not used, the nipple should always be cleansed after either of the above named applications, before it is again put to the breast. The chief objection to cerates and ointments is the difficulty of removing them under these circumstances.

Cleanse the nipple before nursing again.

You will find upon the table a dozen kinds of nipple shield. I can not recommend any of them as suited to every case. My plan is to try one and another, if necessary, until I find the one that my patient can use. The more simple the instrument the better. If it has too long a teat it will be very apt to occasion soreness and inflammation in the roof of the child's mouth. It should be kept sweet and clean. In case the breast is so exceedingly sensitive that the mother cannot bear it touched, the shield which is arranged with a flexible tube between the child's mouth and the nipple of the mother answers best. If the milk does not flow very readily through the shield, it may first be drawn a few times by an older child, or very carefully by the nurse. If the child refuses to take hold, a little tact and starvation will mend his manners. The shield should be used on both breasts, and not upon one exclusively, else while one gland is well drawn the other may not be half emptied, and mammary abscess may follow. If the skin of the nipple is very delicate, the shield should be used from the first, and the babe not allowed to take hold of the nipple at all.

Choice of nipple shield.

Precautions.

The advantages of this little instrument are that while it secures, if appropriately and carefully used, a thorough evacuation of the breast — preventing the inflammation and suppuration which in many cases would be inevitable without it — it also averts and alleviates suffering.

Benefits of the shield.

By preventing the removal of reparative material which is thrown out, as well as by allowing lotions and ointments time to act, and by keeping the nipple from direct contact with the child's mouth, protecting it from the injurious results of suction and friction, it hastens the cure. The child should be nursed regularly, as often as once in three hours during the day.

If there is a high degree of local inflammation, soothing applications of cold water or rose water, or, better still, a cold emollient of slippery elm, may be applied. In some cases it is impossible to cure an excoriated or ulcerated nipple while the inflammation in the loose cellular tissue within and about the base of the organ continues. Weaning is a final expedient.

For local inflammation.

Among the internal remedies calcarea carbonica, sepia, sulphur, graphites, rhus tox., chamomilla, silicea, mercurius, alumina, hepar sulphuris, nux vomica and causticum are the more prominent. In selecting the appropriate remedy particular prominence should be given to the patient's antecedents, the peculiar condition of her health during pregnancy, and to acquired predispositions, as well as to the distinctive symptoms of which she complains.

Internal remedies.

No matter how apparently trivial the case, we should never forget that its neglect may lead to serious consequences, and chiefly because the patient is still in the puerperal state. This fact should have its influence in the selection of the constitutional treatment especially, and its import will extend over a longer period of time than you may have supposed.

A practical hint.

LECTURE XXX.

RECURRENT ABORTION FROM MAL-LACTATION.

Recurrent abortion from mal-lactation. Leucorrhœa the cause of impaired lacteal secretion. Loss of the nipples from erysipelatous inflammation. Anæmia from conjoined lactation and menstruation. Extraordinary lactation.

Case.—Mrs. ——, aged thirty, has had six children, the last three of which were still-born. She complains of a choking sensation in the throat and a constant dull ache in the head and back. There is a free secretion of saliva amounting almost to ptyalism. Not having menstruated for four months, she supposes herself to be pregnant again. When her third baby was a week old, she was seized with a violent chill, which had the effect to stop the flow of milk entirely. It did not come again, but she was very ill for two months afterwards. She had nursed the first three children naturally, and had plenty of milk for them; but there was no secretion of milk in either of the subsequent pregnancies. All of the still-born children survived the seventh month of utero-gestation. She is very anxious to go to "term" with this one.

The clinical history of women abounds in crises. We are reminded by this case, that one of these crises may so extend its influence as to modify another, and indeed to change the whole subsequent health of the patient.

I have no doubt that a sudden arrest of the secretion of milk may indirectly work mischief in subsequent pregnancies. Although this is not classed among the causes of abortion, or of still-birth, it certainly may predispose to such a mishap. This result is not infrequent in fashionable life, where infants are turned off for trivial reasons, and the flow of milk is suppressed by artificial means. And you should not forget that the "habit" of aborting may sometimes be entailed upon your patients in this way.

The reason why this poor woman has failed to have a living child since her third baby was born is therefore evident. If her breasts had never filled; if she had failed to furnish food for one and all of her first children, the case would have been different. The mere fact that she had never been able to nurse them would exclude

the morbid cause of which I am speaking. But, when she had reared three, or even one of them in the natural way, and then experienced a sudden and complete arrest of this function (more especially within the first week of her next lying-in), the consequences were more lasting and serious.

If your experience accords with mine you will be thoroughly impressed with the importance of non-lactation as a factor in the production not only of sub-involution and its usual consequences, but also of a variety of disorders of the function of reproduction. It has often happened that the failure of a primipara to nurse her child, as she might and should have done, has made her practically barren, as well as a confirmed invalid. This result may sometimes be ascribed to the formation of neoplasms, such as fibroids, which have developed insidiously, and which interfere mechanically with the evolution of the gravid uterus. Sometimes it renders the womb so intolerant of the ovum as to cause a form of abortion which is classed as membranous dysmenorrhœa; and again it entails a chronic inflammation of the ovaries, which it is next to impossible to cure.

Even where the function of lactation is not entirely arrested by the contingencies with which it is beset, certain mischievous results may follow. So slight a mishap as the chill from which our patient suffered might, under peculiar circumstances, have laid the foundation for a recurrent abortion. In fact, there is no single symptom of the lying-in which is more significant, either in its immediate or remote effects, than the chill which may happen at any time within the first month. Those of you who wish to study this subject very thoroughly should read the remarkable monograph of Dr. Stoicesco upon the nature and significance of the chill in the puerperal state.*

Its proneness to affect the uterine lymphatic and the whole intra-pelvic circulation, causing inflammation and derangement of function during lying-in, explains the liability to such remote troubles as are now under review. This is one method at least in which the chill as a contingent of the puerperal state may become the predisposing cause of abortion.

There are many diseases of women, besides those which are con-

*Du Frisson (pathogénie et nature) sa valeur séméiologique pendant l'état puerperal, etc., pp. 150. Paris, 1876.

tingent upon gestation, that are due, perhaps very remotely, to the same cause.

Naturally enough this knowledge of the case implies the possibility of helping our patient to carry her child to term, by prescribing for the effects of that chill, the arrest of the lacteal flow, and her subsequent illness. But, are our remedies retro-active? I have no doubt of it, if they are properly chosen.

First we will give her a few doses of belladonna 3 for the angina and the headache. Then she will take phosphorus 6, twice daily, for a fortnight, and we shall see if she does not improve.

[This patient, who reported from time to time, improved steadily upon the phosphorus. She took no other remedy, and went to term without any further accident. She was safely delivered of a healthy child, and was able to nurse it.]

LEUCORRHŒA THE CAUSE OF IMPAIRED LACTEAL SECRETION.

Case. — Mrs. ——, aged 30, of scrofulous diathesis, has one child, which is now two and a half months old. She has had leucorrhœa for more than two years. It showed no abatement during pregnancy, and continued through her lying-in and lactation. At birth, her infant weighed ten pounds; now it weighs only eight pounds. Its digestive system has been constantly deranged, and its little life threatened by vomiting, indigestion, and diarrhœa. The mother's breasts have not been diseased in any way, but have remained plump, soft, and natural. The quality of the milk, however, was impaired. It was thin, watery, and of a bluish cast.

A fortnight ago the child was, by my advice, taken from the breast, and ordered good cow's milk, diluted in the proportion of one-third water to two-thirds milk. Immediately it began to improve and gain flesh, and it is now nearly well. The only treatment this patient has ever had for the leucorrhœa, consisted of harsh astringent injections of alum-water, tannin, etc. These expedients have had the effect to arrest the flow temporarily. She describes the discharge as milky, and says it is accompanied by more or less of aching in the vagina and itching of the pudenda. The flow is more profuse after exercise. It has been her habit heretofore to menstruate too freely and frequently.

Leucorrhœa and scrofulosis.

Leucorrhœa is sometimes very persistent. It may be associated, either as cause or effect, with a depraved and enfeebled condition of system. The worst cases occur in scrofulous subjects. In this class of patients there is a strong predisposition to glandular disease, and

leucorrhœa should properly be classed among the glandular affections. Let us inquire into the significance of the fact that it is so frequently engrafted upon the scrofulous dyscrasia.

In the lecture upon hæmatogenesis, or blood-making, which you heard only last evening, my colleague, the professor of physiology, directed your attention to the important function of the lymphatic glands, as related to that process. You were told that the chyle and lymph which are subjected to the action of these glands, are so changed thereby as afterwards to constitute a most essential part of the blood. The mesenteric glands manipulate the chyliferous fluid which is *en route* for the general circulation. Both the superficial and the deep-seated lymphatics are designed to absorb any surplus of serum that may have been poured out in excess of the needs of the different tissues. They are the original physiological economists. They stamp their impress upon this fluid, and then pass it along into the blood-current again. This is the function of lymphosis. As indicated in the lecture to which I have just referred, it concerns the assimilation of the oleo-albuminous element of the food. It is the first step in the process of histogenesis or tissue-making. If this step is not properly taken, the blood becomes impaired in quality, and all the functions are likely to be implicated.

Now this physiological knowledge is of practical application to the case before us. Scrofulous persons are unhealthy because this glandular system is predisposed to disease. Inflammation, or any of its consequences, may so impair the function of the lymphatics as to impoverish the blood, and even to render it harmful to the life-processes. Under these circumstances the albuminous principle is not available for the repair of the tissues. It circulates as a foreign element, which must, in some way, be eliminated and expelled from the organism. It may find an outlet through the kidneys, or some other excretory apparatus; but in escaping is very likely to develop a catarrhal inflammation of one or another of the mucous membranes. The mucous secretions are changed in amount and quality. They become the vehicle for carrying off those very elements which are needed in nutrition, but which have been rejected because the initiatory step in the process of their assimilation was not properly taken. In political parlance, there is so much "red-tapeism," so much respect for method and prece-

dent, in the affairs of our bodily organization, that the other organs and textures will neither recognize nor appropriate this class of proximate principles, unless they have been identified and stamped, or acted upon beforehand.

The same is true of those glands which are set apart for the elaboration of their particular products from elements contained in the blood. It is quite as impossible for the gastric glands to secrete the proper solvent for the food from blood, the quality of which has been impaired in the manner just indicated, as for the muscular and serous, or other tissues, to repair themselves out of a like material. The mammary glands do not form an exception to this rule. This woman's milk is impoverished and injurious to the child, because in the blood which was brought to them the breasts failed to find the materials out of which they could manufacture a wholesome product. Those elements were drained away in the critical discharge from the glands and follicles of the vagina and of the uterine cervix.

Moreover, in consequence of the mammary glands having become eliminative, as well as secretory, it is not impossible that some of these abnormal elements may also escape with the milk from the breasts. Such a product would be both non-assimilable and noxious. The infant would become impoverished and poisoned from nursing it. It could not thrive upon such aliment. Hence the vomiting, indigestion and diarrhœa which have resulted in the case of this woman's child. The rapid improvement in its health from changing its diet to good cow's milk confirms the view we have taken.

Illness of the infant from leucorrhœa in the mother.

In rare cases it sometimes happens that the nursing child becomes diseased in consequence of the mother's milk having been poisoned, through the absorption of drugs that have been injected into the vagina for the purpose of arresting a leucorrhœal flow. I am quite confident that I have seen more than one such infant in great suffering, and ill with an obscure disease, which was properly chargeable to the acetate of lead, alum, tannin, etc., that had been used in the manner indicated.

Indirect poisoning of the child.

Reserving the differential diagnosis of uterine from vaginal leucorrhœa for another lecture, I will call your attention to the sig-

nificance of one or two objective symptoms presented in the case now under consideration. If this patient's flow, which is sometimes profuse, and has continued for two years, came from the uterine cervix. in all probability she would have remained sterile; for, as I shall doubtless have occasion to show you, this form of leucorrhœa is a frequent cause of barrenness. And, besides, had it been uterine, and not vaginal, there would surely have been a partial or complete arrest thereof during pregnancy. Sometimes, however. both varieties may exist conjointly, or they may even alternate in the same patient.

Uterine leucorrhœa and sterility.

Treatment.—In all cases of leucorrhœa which are incident to gestation and lactation, you should bear in mind that the blood is being drained of its assimilable material for the growth of the offspring. For this reason it is sometimes quite impossible to cure the affection radically until these functions have ceased by limitation. In either case, indeed, the leucorrhœa may be critical, and it might therefore be injurious either to mother or child to arrest it while these processes are going on. This is a forcible argument against the use of astringents which are designed to seal up this flow, and to close a species of safety-valve to the general economy.

There are two reasons that may justify, and even necessitate. the weaning of the child for the cure of a leucorrhœa which is incident to the nursing period. If the draught upon the mother's resources while nursing. undermines her strength, it furnishes a cause for this disease which is constant in its operation, and which can only be removed by putting the child away from the breast. And weaning is still more strongly indicated if the child was large and plump at its birth, and the leucorrhœa continued during pregnancy also. Besides, the safety and welfare of the infant may require that it shall be brought up artificially, rather than upon the unhealthy milk that is furnished by the mother.

Weaning the child.

Not unfrequently the cure is half performed when you have prevented a waste which only weakens the mother and injures the child. Stop the leak, and her strength may soon return. For it is a condition of healthy glandular activity, that the blood must be nourishing and stimulating to the glands as well as to other bodily organs.

It is no less important to select a suitable diet for this patient, than to decide upon the appropriate remedy for the symptoms presented. Indeed, the rational method of procedure would be, first, to supply the physiological conditions that are requisite to health, in order that our curative agents may afterwards act more promptly and efficiently. Granted that, in the case before us, the function of the mesenteric glands is so impaired that they fail to effect the proper changes in the peptones brought to them from the bowel. The indication is to choose such an aliment as by their aid may be assimilated. The whites of eggs, lean meat, sea-food, as oysters or other shell-fish, or good fresh milk, are more easily digested and disposed of, and also more nourishing, than a mixed diet largely composed of fatty substances, soups, and the like. It is quite as necessary to discriminate carefully in this class of diseases, and to allow only such food as will be kindly received and appropriated, as it is in the case of the infant, whose digestion is very weak, and whose alimentary system is easily deranged. Sometimes the vegetable acids are not only grateful, but really beneficial. The patient may eat grapes, oranges, tomatoes, or baked apples, or she may drink a mild wine, or an occasional glass of lemonade. Now and then the most excellent results are obtained from travel, partly because of the change of scene and surroundings, but also, as the phrase is, "from change of pasture." The same food, cooked differently, may be more acceptable to the stomach of an invalid, and less harmful in every way, than if she had remained at home and eaten it from the same dish and table as before.

A proper diet.

But let us inquire if there is any means whereby the important function of lymphosis may be stimulated and encouraged. The salts of potassa, soda, lime, alumina, baryta, iron, iodine, ammonia, phosphorus, and other earths and metals, are all more or less intimately related therewith. As prepared by the pharmaceutist, or in the form of mineral waters in the great laboratory of Nature, they have long been employed for the cure of all the principal disorders of nutrition. And the almost universal record of the good results so frequently obtained from them, leads us to conclude that empirical observation cannot have gone very far astray in this matter. The hint, at least, is significant. Clinical experience confirms their

Lymphatic stimulants.

value in the treatment of leucorrhœa. A majority of the reliable remedies for this disease are of mineral origin. And each of them has a specific, pathogenetic, and curative relation to the lymphatic glands. It is for this reason, doubtless, that they are most serviceable in the treatment of scrofulous and catarrhal affections of almost every kind.

Although these clinical generalities are both analytical and suggestive, they should not be allowed to substitute a more careful selection of the appropriate remedy or remedies. We must choose from among all those named, and many more beside, the proper simillimum for the more prominent symptoms complained of. If you will turn to the pathogenesis of calcarea carbonica you will find it. The indications for this most excellent remedy are so positive and almost mathematically exact, that we need look no further. It is called for by the milky leucorrhœa, with aching in the vagina, and itching in the pudenda, with increased flow after exercise, and also in the case of a woman who is subject to a too copious and oft-recurring menstruation.

In prescribing the calcarea carbonica in similar cases, and indeed ordinarily, my own preference is for the third decimal trituration. And, while I do not question the efficacy of the medium and higher preparations thereof, my experience is certainly opposed to the theory which holds that no curative effect can be obtained from this remedy unless it be given in the sixth or a higher potency. Mrs. —— will take one-and-a-half grains of the third trituration of the calcarea morning and evening, and report at the end of a week.

LOSS OF THE NIPPLES FROM ERYSIPELATOUS INFLAMMATION.

The notes of the following remarkable case were sent to me by one of our cleverest graduates, Dr. E. E. Holman, of Warren, Illinois, in June 1880.

Case.—Mrs. H., a primipara who was confined two months ago by a midwife, seemed at first to do well; but in a few days the nipples became perfectly raw from nursing. The midwife did nothing for them. The application of the child to the breast, caused the mother so much pain that her husband was obliged to hold her while it nursed. This process was continued until both nipples came off, after which the milk flowed constantly. Erysipelatous inflammation set in which spread over both breasts and

down to the hips, wherever the milk kept the clothes wet. The baby had been weaned.

The inflammation was almost entirely subdued by the internal use of belladonna. The patient had a good appetite and her general health was fair, although she is of a scrofulous diathesis, and her lungs are not very strong.

Glass nipple-shields were used to protect the breasts from the constant flow of milk. They were kept in place by a closely fitting waist, which was worn day and night. The local application of camphorated oil was persisted in until there was no further secretion from the glands. At first, however, plain cosmoline was used until the surface had healed over.

The nipples—or rather what remained to tell that they had once existed—bathed as they were in the milk, did not heal until lactation had ceased, when they healed rapidly under the topical application of pulverized gum arabic. (I have never failed with this as an application for sore nipples, even when other means have been ineffectual.)

After the erysipelatous inflammation had been controlled by the employment of belladonna, calcarea carb. 6, four times per day was the only remedy given. The menses came at the proper time, and the patient enjoyed as good health as ever before.

ANÆMIA FROM CONJOINED LACTATION AND MENSTRUATION.

Case.—Mrs. M., aged twenty-six, has been ill for ten months, or since her only child was two months old. She complains of pain in her chest, and of a copious leucorrhœal flow which is worse in the inter-menstrual period, and is aggravated by the least exercise. Her menses are regular, not too copious, but have continued to recur since the babe was two months old, she nursing the child until its death, at six months. China 3, four times a day.

May. 19. She is feeling better, but has some chilly, creeping sensations. The leucorrhœa is less free. China 3.

May 26. On local examination in presence of the sub-class, we find the uterus measuring four inches in depth, and a slight endocervicitis. China 3.

June 2. She presents herself with a good report having, "nothing to complain of." She feels strong and well again. Her color is very much improved, and she is advised to report for another local examination after the next monthly period.

It is practically burning the candle at both ends for a mother to persist in nursing her child while she is menstruating. This woman's menses returned before the involution of the uterus was completed. When they came, the natural and necessary effect

of lactation to divert the blood from the pelvis, and to stimulate the uterine contraction, like a battery, was suspended; besides, the double drain in the flow of the milk and the menses, reduced her strength and impoverished her blood, if it did not actually poison her child. The increased depth of the uterus which you all can verify, is the result of these combined causes. You have seen that, in this case at least, it does not depend upon a laceration of the cervix.

UNILATERAL NEURALGIA FROM PROLONGED LACTATION.

Case.—Mrs. C., aged twenty-eight years, has had two children, the youngest of which is a large, strong boy, now eighteen months old. She still nurses this child, but only on the left breast, the milk having disappeared from the right breast only because the child was always applied to the other one, a habit which grew out of his lying and dragging at the nipple all night. The patient is very weak, and, in the morning especially, sometimes feels so exhausted that she can scarcely get up. When her baby was four months old she began to menstruate, and this function has repeated itself, at first irregularly, but of late the flow has been regular, although more copious than it was formerly.

Her chief complaint is of a pain in the left chest passing beneath the breast and extending through the thorax to a point below the corresponding scapula. It also passes down the left arm, which sometimes feels so weak that she can scarcely lift it. This pain, which she has had for six months, is sharp, catching and spasmodic in character, unaffected by respiration, not attended by cough, palpitation or dyspnœa, but is always aggravated by the child's nursing, especially at night. She is pale, sallow and dragged out, with the appearance of having been ill for a long time.

Here we have an illustration of the fact that one condition of secretory activity in the mammary gland consists in the application of the child to the breast. This woman nursed her baby exclusively on the left side because it was more convenient, as it always is, and because the little youngster could lie there and pull at it all night long.

It also confirms what I have so often told you of the ill effect of nursing and menstruating at the same time. The evil consequences are not always identical, but they are inevitable. In the case which has just left us, there was a decided anæmia; but here

we have a local and persistent neuralgia that is directly referable to prolonged lactation under peculiar circumstances.

The points that I want to make for you are these: (1), that a little reflection will prevent you from confounding such a case as this with pulmonary or cardiac difficulties; (2), that the exercise of a little good sense in the regulation of the patient's habits is indispensable to a cure; (3), that since we cannot arrest the menstrual function at will, we must wean the child to stop a further waste; and (4), the affiliation of the remedy is an affair of secondary importance, for when the proper conditions for the woman's health are supplied, the neuralgia will usually disappear of itself.

I will close this lecture by citing the following case which was reported in the *N. E. Medical Gazette* for April 15, 1867, by Dr. Wm. Pearson, of Mass.:

EXTRAORDINARY LACTATION.

Case.—Mrs. D., residing in Vermont, aged twenty-eight, had been married ten years, and enjoyed good health, but had never borne children, or had any signs of pregnancy. She began to have morning sickness in August, 1854, and menstruation gradually ceased three months later. In January following, the morning sickness subsided; but she had a feeling of general languor, and soreness in the region of the right ovary. She had "motion plainly to be felt and seen," she said. About this time the mammary glands began to have more than the usual tenderness and fullness, and in February the breasts were full of milk to overflowing; and in fact, she had all the usual signs of pregnancy in the last stage.

About the first of March, she was "taken with slight flowing," which continued a week or more attended with pains like those of labor; and a physician was called to attend to her case, which he thought very peculiar. These symptoms gradually passed off; and, in about three weeks, she had a similar attack of pain and flowing. The secretion of milk continued as before; but she had no expulsion of any substance from the uterus, either this time or ever afterwards.

Subsequently her usual monthly periods became established; but she continued to have a large flow of milk, and was obliged to have it drawn by some means.

In the course of a few weeks, a child was presented to her by a gentleman who had the misfortune to lose his wife in confine-

ment. She nursed the child from month to month, and gradually diminished in size, and recovered her usual health and strength.

The lady is still living, in good health, with the exception of occasional attacks of colic, and severe spasms in the region of the liver, probably from biliary calculi. In a practice of more than thirty years, I have never happened to see another such case, and how to account for *this* I know not.

This was evidently a remarkable, and a very unusual freak of Nature, for which, since the function of ovulation was intact meanwhile, no valid reason can be assigned. If the uterus had contained a foreign body, the delivery of which had been brought about as in natural labor, there would have been a physiological reason for it; but the circumstances as related cannot be explained in any such way.

Part Seventh.

THE DISEASES OF THE CLIMACTERIC.

LECTURE XXXI.

THE CLIMACTERIC PERIOD.

The Menopause; the disorders of,—the diseases that are cured by it. Symptoms; *Case*, diagnosis; prognosis; treatment. Hysteria at the climacteric. Hysteria in a woman aged sixty.

The period at which the menses cease is sometimes styled the "change of life," the "grand climacteric," the "critical age," the "turn of life," and the menopause. It indicates the close of a woman's menstrual, and therefore of her sexual life. When that life has continued for thirty years or more, with its monthly vicissitudes, which have been interrupted only by pregnancy, lactation or disease, it is natural to suppose that its final arrest will be beset by contingencies of a peculiar kind. The diseases of the climacteric possess a peculiar interest for the physician, more especially because they are intricate and difficult of cure, and because they concern a very important class of his patients.

If it is important to tide a patient over the difficulties that are proper to the crises of which we have spoken, it is none the less so to protect her at the climacteric. The clinical interest which centres in her as a sexual being culminates at this period, and there is no better evidence of our civilization, and of our professional capacity than is to be found in the care which we bestow upon women at this time, and under these circumstances.

Varying age.

The age at which this period arrives in woman varies as much in different individuals as does that which dates the advent of puberty. Indeed it bears such a general relation to the early or late establishment of the menstrual function that we ordinarily estimate from puberty to

determine when the catamenia should naturally cease. Thus, the usual duration of menstrual life is thirty years. If our patient was "unwell" for the first time when she was but thirteen years old, and we add thirty to that number, we shall have forty-three years as the most natural limit for the return of the monthly cycle. If, instead of beginning at thirteen the function had failed until she was fifteen, then she would most naturally continue to menstruate until she had reached the age of forty-five years.

Duration of menstrual life.

But this calculation is approximative, and not exact. We must make allowance for modifying circumstances of various kinds, among which hereditary peculiarities are, perhaps, the most marked. There are families in which all the women cease to menstruate prematurely at as early an age as thirty, others at thirty-five, and still others in whom the ménopause is adjourned until fifty, or even to the 60th year, when it degenerates into a species of sexual hæmorrhage. In these cases the advent of the change of life bears no particular relation to the age of the individual at the time that puberty was established. It not unfrequently happens that those who begin to menstruate the earliest continue to do so for a longer period than those who began later in life.

Exceptions.

Physiologically considered, the "change" which closes and terminates a most important function of the female economy, is truly an eventful and a marvelous one. It must work such a complete revolution as to invest this crisis with numerous contingencies. For this function, which represents the maternal instinct and relation, which made it possible for the woman to become a mother, which was suspended while the child was being developed in utero, and while she nourished it at the breast; and which was restored again in due season, is not one that can be begun, continued for so many years, and then stopped, without great expense and risk to the general organism.

Importance of the change.

Hence we find that the approach of the climacteric predisposes women to various diseases which are of a more or less serious nature. And, what is very strange, it not unfrequently happens that the disease from which they may have suffered at puberty re-

Predisposition incident to this period.

turns. It is so in the case before us. The class of affections which are most likely to recur in this manner are eruptive and nervous disorders, and hæmorrhages from certain mucous membranes. In cases of this kind, it may happen that many years have elapsed without any sign of the difficulty, but when this change begins to take place the first symptom noticed is the reappearance of the old enemy. Very nervous and plethoric women are more likely to suffer in this manner, and indeed to be ill, at the change of life, than those who are of a lymphatic temperament.

Diseases incident to puberty may return.

But in this respect the ménopause is not absolutely or always in relation with puberty. Very often the experiences that have intervened since the woman first began to menstruate have so changed her nature that she has acquired a predisposition to other and different diseases. Pregnancy, labor, and lactation, leave their impress upon her organization, and it is as impossible for her youthful susceptibilities always to return, as it would be for her to become the same in feeling after the change of life that she was in her girlhood.

New disorders induced.

Another peculiarity worthy of note is that many diseases are cured, or disappear in consequence of the climacteric. The ovarian atrophy and paralysis removes a constantly recurring source of disease. The monthly cycle and its attendant excitement of the nervous, vascular, and glandular systems is withdrawn. A season of continued quiet, and comparative tranquillity supplies a favorable condition for the restoration of health. And when the critical period has passed it is found to have been the scape-goat of a thousand ills. Slender women may become corpulent and even obese, bed-ridden invalids get up and walk, and an entire and radical change of physical condition is the consequence in those who escape the perils of this period. They enter upon a new phase of life, with new hopes and relations towards the present and the future.

Old diseases cured by.

Symptoms. — The manner of approach of the critical period varies in different individuals. With some women the change is abrupt, but with the majority it is more prolonged and gradual. Not infrequently the flow becomes intermittent, or, rather, the periods become irregular. One, two, three, or perhaps six months, and sometimes a year or more, may elapse between them.

In many cases they are too frequent, as well as too profuse, for a season, and afterwards are more tardy and abnormal in this respect.

In a considerable proportion of cases the amount of the flow lessens gradually, so that it may finally come away drop by drop, or until there is nothing of it left. But as the change approaches, many women find themselves flowing more freely than ever before. Indeed, the tendency of the catamenial discharge to develop into a hæmorrhage is often observed. Out of 500 women at the change of life, Tilt observed that 208 had hæmorrhages of various kinds. Of these, 138 had either a single terminal flooding, or successive floodings.*

Hæmorrhage.

Other forms of hæmorrhage, which are in a sense vicarious of the monthly flow at the climacteric, are hæmorrhoids, entorrhagia, epistaxis, hæmoptysis, cerebral hæmorrhage and apoplexy, hæmatemesis, hæmaturia, bursting of varicose veins, bleeding from the ear, and cutaneous ecchymosis. In plethoric women these losses of blood are in a sense critical, and although they are often dangerous in themselves, yet as a kind of safety-valve, they are sometimes salutary.

The sudden arrest of the accustomed flow, when the change comes on abruptly, and more especially in those who are in good health, is often the occasion of alarm with such persons lest they be pregnant. This suspicion finds apparent confirmation in the coincident gastric derangements that not unfrequently ensue. There is something resembling morning sickness, caprices of appetite, a sense of fullness and discomfort, and pelvic bearing-down and aching which women recognize as very similar to, if not identical with the symptoms of early pregnancy. You will certainly be consulted in cases of this kind, and in making a diagnosis should not forget that some women cease to menstruate as early as the twenty-fifth year.

Simulates pregnancy.

Sometimes the most violent, and again the most persistent and intractable indigestion, colic, diarrhœa, hæmorrhoids, dysentery or constipation, come with the first symptom of the menstrual decline. In many cases, these

Alimentary symptoms.

* The Change of Life in Health and Disease. By Edward John Tilt, M.D., etc. London, 1867, page 65.

attacks are self-limited, and subside of themselves when the crisis has finally passed. In a few they supplement the catamenial flow, and may pass into the chronic form.

Disorders of the circulation.

The circulation is very irregular, as is shown by flushes of heat in the face and elsewhere, local congestions to the head, giddiness, blushing and discoloration of the skin, coldness, tingling and numbness of the extremities, sudden outbreaks of perspiration, chilliness, rigors, and active hæmorrhages.

Nervous symptoms.

The nervous symptoms and sequelæ of the climacteric are marked and sometimes very troublesome. In degree they vary from the slight mental perturbations, vulgarly styled "the fidgets," to the most profound convulsions and paralysis. Headache, vertigo, nervous irritability, pseudo-narcotism, self-absorption, insomnia, jactitation, palpitation, dyspnœa, horrible dreams, fainting, erethism, depression, debility, twitchings, spasms, mania, and full-fledged hysteria are by no means uncommon at this period. Either of these affections may precede, accompany or follow the cessation of the menses. In many cases the disorder is ephemeral; but in others it becomes seated and confirmed. Spasmodic affections are very apt to continue, and to take on a regular periodical type, which is most difficult of cure. The ganglionic nervous system is always implicated.

Epilepsy.

There is a form of epilepsy which is not unusual at this period. I have seen several cases of the kind that were in no way connected with the hereditary form of this disease. Only yesterday I was consulted by my friend, Dr. W. R. McLaren, for the relief of the following

Case.—Mrs. ——, aged forty-five, is now passing through the grand climacteric. The menses recur every four to six months. They are quite profuse. About every seven weeks she has the epileptic seizure. There is no very strong muscular contraction or rigidity. The face is pale, and during the paroxysm there is stertorous breathing, with foaming at the mouth. The fit, during which she is quite oblivious to everything external, lasts about four minutes. After it she sleeps for three-fourths of an hour. The change of life commenced with her one year ago, at which time she first began to have the epileptic paroxysms. Epilepsy is

not hereditary in her family, although her mother also had fits at the change of life.

Disorders of the special senses.

Disorders of the nerves of special sense are not infrequent. Deafness, blindness, aphonia, loss of the sense of taste or of smell, and of tactile sensibility in various portions of the skin, are among the more common of these affections. These complications are most apt to occur in weakly, nervous, debilitated women in whom, for some reason, the climacteric is very much prolonged or exhaustive.

Diseases of the respiratory system.

The respiratory system comes in for its share of the contingent ailments. Those women especially who are predisposed to pectoral complaints, who inherit this bias, and who have suffered some of the consequences of incipient organic disease of the lungs at or before puberty, are most likely to have something of the kind at the climacteric change. Perhaps the first thing noticed is a more or less copious spitting of blood, or a nervous, irritating cough, which by and by settles into a confirmed habit, and is accompanied by free expectoration. In some cases these symptoms develop into a rapid decline, and the patient may not live more than a very few weeks. In others they subside of themselves when the first cause is removed, and the menstrual crisis is safely over. In not a few instances the boasted cures of phthisis pulmonalis are really to be ascribed to the fact that such cases as these are self-limited, and frequently get well of themselves.

Disorders of the generative system.

But, as you would suppose, it is the generative function and the sexual organs which are most seriously disordered in consequence of the final cessation of the menses. Thus Dr. Tilt* found that of 500 women at the change of life, 463 suffered from uterine affections. Among these contingent disorders are uterine cancer and catarrh, cervical inflammation and hypertrophy, uterine ulceration, hæmorrhage, hysteralgia, leucorrhœa, displacements, tumors, hydatids, polypi, and fibroids. Either or all of these diseases are more serious if the patient has already suffered from them.

Other complications are ovaritis, ovarian induration, atrophy and paralysis, the development of cystic tumors, and of ovarian

* Op. citat., p. 82.

abscess, and hæmatocele. And still another disease of the generative system, properly speaking, is cancer of the breast, the development of which appears in many cases to be hastened by the permanent arrest of the menstrual secretion.

Incidental diseases.

Women sometimes suffer from a species of rheumatism and others from neuralgia which worries them exceedingly, and may perhaps wear away their remaining strength very rapidly. Again these affections are combined, and either or both of them may be located within the pelvis. The arrival of the critical period may act as an exciting cause, and really occasion an attack of rheumatism in one who not only has never had it before, but who was thought to be free from any predisposition to it. I could cite you many cases of this kind, but it must suffice merely to call your attention to the fact itself.

Rheumatism and neuralgia.

Prognosis. — Where serious diseases occur at the climacteric, or follow it almost immediately, you will be puzzled in your prognosis. Eminent authorities are of opinion that the ovarian activity is commensurate with the constitutional vigor; and that, as a rule, life is longest in those women in whom puberty is retarded and the menstrual function most prolonged. Therefore, it will be a safe criterion upon which to base an opinion if we say that the patient's previous health (especially in so far as ovulation is concerned) has been good or ill, habitually. If she has been weakly and sickly, and suffered from menstrual derangements, such as dysmenorrhœa, menorrhagia, and amenorrhœa; or her nutritive resources have been sapped and drained by a chronic leucorrhœa, or diarrhœa, or mal-medication, or starvation, whether mental, moral or physical, the case is not of the most hopeful kind. The same is true of the bad effects of scrofulosis, and of too rapid child-bearing, as tending to undermine the general health and vigor, and to leave the patient a more easy prey to the contingencies that beset the ménopause.

The general health the best criterion.

We are therefore compelled to make due allowance for previous ill health, and to qualify our prognosis; for it is a crisis through which the woman must pass, and whether she will survive it or not, will depend very largely upon the stock of strength that she has in reserve to begin with.

Critical catamenial hæmorrhages are dangerous, not because, as the ancients believed, that certain poisonous matters from the menses are retained in the blood-current, and need to be eliminated, but because of an overwhelming afflux of blood to a delicate tissue or organ, which may soon result in disorganization and death.

Cause of the danger.

If the cessation of the periodical flow shall re-act upon the lungs, and light up the tuberculous diathesis, it will not be safe to promise to cure the patient. And so, also, of the alimentary disorders, of which I have spoken; for, although some of these utero-intestinal affections subside of themselves, when the menses are entirely disposed of, still in many other cases they only run a more rapid and fatal course.

The tuberculous diathesis.

Treatment.—The critical period, therefore, is beset with so many dangers that its treatment becomes a very important matter. The first thing to be done is so to regulate the habits and surroundings of the patient as to protect her against these dangers. The state of her mind, the amount and variety of her physical exercise, and her food, must be prescribed and regulated according to the rules of hygiene and of good, sound common sense. Nothing wears upon a woman who has reached the turn of life like a want of sleep, of rest, and of freedom from the petty cares and annoyances which she could once overcome by her own strength of will.

Hygienic rules.

She should be encouraged and stimulated by cheerful society and pleasant intercourse with a few friends. Her thoughts should not be introverted. She should not be permitted to brood over such reflections as will make her nervous and wretched, but should become interested in the welfare and happiness of others; for this is the line of thought that henceforth must engage her attention.

Diversion.

Especially should you guard against the development of any disease to which she is predisposed. If she is liable to hæmorrhagic attacks from plethora, let her diet be plain and unstimulating, her habits as active as possible within the limits of prudence, and give her such remedies (according to their specific indications) as aconite, belladonna, veratrum vir., gelseminum, bryonia, or ipecacu-

Guard against hereditary predispositions.

anha. If, however, the hæmorrhage is passive, and the result of an anæmic or vitiated habit, you may consult the merits of nitric acid, china, arsenicum alb., secale cor., sabina, crocus, trillium, erechthites, pulsatilla, ferrum met., and carbo vegetabilis. Cool acidulated drinks ought always to be preferred in this class of cases. Tea and coffee should be interdicted, and so, also, should very active or violent exercise.

For the hæmorrhage.

Next to this tendency to hæmorrhage, which is always alarming and frequently dangerous, especially at this time of life, the possibility that the patient may pass almost insidiously into a decline from tuberculosis in some of its forms, renders it necessary to antidote this predisposition whenever it exists. For this purpose certain precautionary measures are requisite. A limited amount of exposure is not necessarily harmful, but care should be taken that these patients incur no risks in this regard. They should not be suffered to take cold, to get the feet wet, to go out in a storm, to wear insufficient clothing, no matter how fashionable, or to talk or to sing too much and too long at one time. They should keep in from the night air especially, and not be permitted to sit in the open air, as many women are in the habit of doing. Such a patient should not be removed from her old home into a new house, for example, in which the walls are not dry. In brief, without being fussy, she should take unusual care of her health at this period, for a slight indiscretion, or an otherwise trifling cold might act as an exciting cause for the development of a latent disease that would soon carry her off.

For the tendency to phthisis.

The remedies to be thought of in this connection are calcarea carb., calcarea phos., sanguinaria, phosphorus, stannum, mercurius jod., kali jod., kali brom., kali carb., hepar sulph., lachesis, sepia, lycopodium, nitric acid, ignatia, bryonia and silicea. The greatest possible care should be taken to recognize and to remedy the first symptoms of tuberculosis in a woman who is passing the critical period; for if this is done there is little doubt that much trouble and suffering may be spared, and her life prolonged.

The symptoms of coincident digestive disorders may be treated upon specific indications, always giving preference, however, when possible, to those remedies that have a curative relation to the generative, as well as

For the digestive disorders.

to the alimentary function. Nux vomica, colocynth, arsenicum alb., mercurius, pulsatilla, natrum mur., bryonia, calcarea carb., cocculus, veratrum alb. and veratrum vir., chamomilla, sulphur and belladonna belong to this class. The diet should be regulated with the greatest care.

The wonderful influence of aconite over most of the derangements of the circulation at the climacteric, has long been known. It is an invaluable and almost indispensable remedy. Other available remedies of this sort are veratrum viride, gelseminum, and belladonna. They are not only indicated physiologically and pathogenetically in many cases, but the indication includes their special relation to disorders of the sexual system, more particularly to such as depend upon certain crises in the uterine and ovarian circulation. For the "flushes" and flashes of sudden heat, which constitute the most troublesome symptoms in milder cases, Dr. Madden recommends lachesis, either in the sixth or twelfth dilution; Dr. John F. Gray, sanguinaria; and Dr. Trinks, sulphuric acid. You will find the indications for these and other remedies in Dr. Richard Hughes' excellent work on Therapeutics.*

For the disorders of the circulation.

The nervous epiphenomena demand such remedies under almost the same identical indications, as would be prescribed for them if they were incident to the more common menstrual disorders, as for example, dysmenorrhœa, amenorrhœa or menorrhagia. Belladonna, ignatia, hyoscyamus, coffea, chamomilla, moschus, pulsatilla, caulophyllin, macrotin and senecin, are most freely indicated.

For the nervous symptoms.

And so likewise of diseases of the generative organs that are incident to the critical period. The rules which I have so frequently repeated with reference to their medical and surgical management should be carried out in practice with even more than ordinary care and skill. Whatever can possibly interfere with the structural changes which result in the atrophy of the ovaries and the uterus, as a part of the critical process, should be removed. For these structural changes, brought about through fatty metamorphosis, really pertain to the period through which the patient

For the disorders of the generative system.

* A Manual of Therapeutics, by Richard Hughes, L.R.C.P. Ed., etc., etc., N. Y. 1869, page 455.

is passing, quite as decidedly as the cessation of the flow itself. Since it might therefore interrupt this retrograde metamorphosis of the tissues if inflammation were established in them, you should see to it that such a contingency is averted; or if it has already begun, to cure it and remove its consequences as speedily as possible.

For rheumatism and neuralgia.

For the rheumatic and neuralgic complication, macrotin, rhus tox., atropine, the valerinate of zinc, mercurius, and similar remedies will be required.

THE COMPARATIVE FREQUENCY OF VARIOUS DISEASES AT THE CLIMACTERIC.

At a late meeting of the Clinical Society Dr. B. L. Reynolds presented a table of fifty cases drawn from my clinic, illustrating the date of the menopause and showing the relative frequency of the diseases that accompany and follow it.

Of these fifty cases, it will be observed that the age at which menstruation ceased, was below forty in two cases; between forty and forty-five, in fifteen cases; between forty-five and fifty, in twenty cases; between fifty and fifty-five, in thirteen cases. In one instance, the change of life occurred at fifty-six and in another at fifty-five.

Age at decline.

Of the diseases from which the patients were suffering when they came to the clinic, and which were post-climacteric, there were seven cases of dyspepsia, six of apoplexy, five of rheumatism, four of procidentia of the uterus, three of headache, two of anasarca, two of gastritis, two of epithelioma of the cervix, two of prolapsus uteri, and one each of asthma, epistaxis, bronchocele, Bright's disease, dyspnœa, papular eruption, incipient paralysis, hemiplegia, hæmorrhoids, hæmoptysis, spinal irritation, tuberculosis, uterine epistaxis, metrorrhagia, ovarian dropsy, uterine fibroid, and chronic vaginitis.

Relative frequency of disease.

Although this table might have included many more cases, it serves to illustrate the relative frequency of diseases that occur at this particular period, and will give a good idea of what I shall be privileged to show you in this department of my clinic. Dyspepsia, rheumatism, etc., are as certainly modified by the menopause as they would be by puerperality if they occurred after child-birth.

ANALYSIS OF FIFTY CASES, TAKEN FROM PROF. LUDLAM'S CLINIC, SHOWING THE DATE OF THE MENOPAUSE AND ITS SEQUELÆ.

NO.	CASE.	POST-CLIMACTERIC DISORDERS.	AGE.	NO.	CASE.	POST-CLIMACTERIC DISORDERS.	AGE.
1	6109	Epithelioma of the cervix	46	26	7772	Hemoptisis	46
2	6113	Dyspepsia	48	27	7848	Post-Menstrual headache	45
3	6155	Chronic gastritis	42	28	7871	Rheumatism	53
4	6279	Atonic dyspepsia	47	29	8163	Rheumatism	50
5	6298	Chronic dyspepsia	46	30	8164	Rheumatism	50
6	6309	Anasarca	51	31	8252	Prolapsus, with vesical irritation	52
7	6367	Procidentia uteri	50	32	8253	Epistaxis	49
8	6439	Hemiplegia	48	33	8166	Apoplexy	42
9	6475	Metrorrhagia	43	34	8268	Tuberculosis	44
10	6468	Procidentia uteri	43	35	8305	Anasarca	52
11	6512	Papular eruption	43	36	8306	Chronic vaginitis	41
12	6513	Asthma	47	37	8377	Spinal irritation	46
13	6554	Headache	50	38	8500	Procidentia for seventeen years	50
14	6599	Uterine fibroid	46	39	8622	Gastritis	49
15	6629	Apoplectic tendency	56	40	8624	Prolapsus uteri	40
16	6937	Uterine epistaxis	48	41	8639	Dyspepsia	42
17	6721	Apoplectic tendency	47	42	8641	Congestive headache	47
18	7118	Ovarian dropsy	55	43	8756	Apoplectic tendency	48
19	8213	Apoplectic tendency	41	44	8759	Dyspepsia	44
20	7276	Articular rheumatism	51	45	8766	Bronchocele	44
21	7379	Dyspepsia	52	46	8769	Procidentia for nineteen years	47
22	7423	Hemorrhoids	38	47	8139	Bright's disease	46
23	7501	Incipient paralysis	48	48	7155	Rheumatism	48
24	7540	Epithelioma of cervix	30	49	7740	Dyspepsia	43
25	7607	Dyspnœa	47	50	7199	Apoplectic tendency	55

HYSTERIA AT THE CLIMACTERIC.

Case.—Mrs. S——, a strong, healthy-looking woman of 50 relates the following history: She was taken ill while pregnant with her sixth and last child, fourteen years ago. This illness she attributes to neglect and unkind treatment on the part of her husband. Despite much trouble, suffering and anxiety, she went to term, and her child is still living. Her chief symptoms were a feeling as if she were dying, with great prostration, sinking, choking at the throat, and partial unconsciousness. She would weep and sob for hours together, and her gloomy feelings could not be dissipated. These attacks came irregularly, but increased in severity towards the close of gestation.

Two years later an eruption resembling "salt rheum" made its appearance on the right arm, above the elbow, and on the same side of the neck. The cropping out of this eruption, which is worse in cold weather, was followed by manifest relief of the nervous symptoms. She soon remarked that when it was out most frequently, she felt best in other respects, and *vice versa*. This alternation has continued for twelve years. Whenever the eruption disappears, the nervous symptoms are very distressing.

Menstruation continued regularly until four years ago, the patient at that time being forty-six years old. It then began to be irregular, sometimes being absent for two, three, or even four months, and when it returned, it was liable to be profuse and long-continued. Twice she went only two weeks between her periods. Once, as they did not return from October to the following July, she supposed that they had entirely ceased.

I have brought this patient before you to illustrate the possible relation between a cutaneous eruption and the existence of hysterical symptoms. For twelve years this eruption has alternated with intractable nervous symptoms, more alarming than serious. She has been questioned very thoroughly, but we cannot learn that she ever had any eruption which had been repelled prior to the date of her present illness. Nevertheless, the evident relation between the disease of the skin and the other symptoms complained of will not be doubted.

Skin disease and hysteria.

Repelled eruptions are, in general, more likely to produce some structural disorder of the mucous membranes than to give rise to functional or organic lesions of the nervous system. But instances are not wanting in which serious neuroses, as, for example, insanity, epilepsy, paralysis, and neuralgia, have been due to this cause.

And so, also, with hysteria. I have seen the most obstinate cases refuse to yield to the best affiliated remedies, because they originated in the repercussion of some apparently trifling eruption. If you will take this clinical hint at its proper value, it may be of great service to you bye and bye. These cases are exceptional, it is true, but such a one may be the very first on the list of your private patients.

The menstrual irregularity in this case is referable to the critical period through which the patient has been passing during the last four years.

Treatment.—We should, so far as is possible, ascertain the especial nature of the eruption which has caused, or is so nearly related to, the disorder for which we are to prescribe. Is it vesicular, papular, pustular or squamous? Has it always preserved the same character? Does it itch, or burn, or what are its peculiar sensations? What accidental circumstance is likely to bring it out, or aggravate it? These and similar inquiries may influence the choice of the remedy, especially in chronic cases. The key to the cure may be found through them.

Character of the eruption may indicate the remedy.

The increase of duty in the enunctory function of the skin, and the increased determination of blood to the cutaneous surface at the climacteric, tends to reproduce such latent eruptions and humors as may have disappeared and been forgotten during menstrual life. It is not an uncommon thing for women to suffer from rashes and eruptions instead of the flushes of heat, the perspirations, or the coldness of the surface of which the majority of them complain at what is often called the "dodging-time." If these eruptions are generally distributed they may be critical and salutary, in which case they should be treated kindly, and not repelled by the use of harsh, or astringent applications; but, if they are limited to the external genitals, more especially if they persist, and are accompanied by an intractable vaginitis, there is reason to fear that they are either of a specific or of a malignant character.

In this case the eruption was originally vesicular. Each time it reappears a crop of vesicles forms. They soon break and discharge, and the serum dries and forms a yellowish crust. This is followed by slight itching, especially when the part is exposed to the air.

These symptom indicate rhus tox., and it alone may be sufficient for the cure, not only of the eruption, but of the incidental affection also. I prefer the thirtieth attenuation of this remedy for chronic cases. In exceptional cases, it answers very well to alternate two potencies of this remedy, as for example, the third and the thirtieth. If the rhus fails, we may give sulphur in a similar manner.

Mrs. S. will take a dose of the rhus tox. 30th, every morning and night, and report in two weeks. She must be careful to avoid pastry, spices, fats and indigestible food of all kinds. And also to forbear applying any wash or ointment that might repel this eruption and increase the difficulty.

HYSTERIA IN A WOMAN AGED SIXTY.

Case.—I was called, during the night of August 20, 1857, to visit Mrs. ——, aged 60. She was in a semi-conscious state. At intervals of from two to five minutes she had spasms which affected chiefly the neck and superior extremities. During these spasms both the fingers and the wrists were very much flexed. The arms and hands trembled constantly. The pulse continued quite regular and uniform, both during the paroxysm and in the interval. The eyes were slightly suffused, but otherwise natural; the pupil being neither dilated nor contracted. When the paroxysm subsided, she became very restless, and moaned and wept immoderately. I observed that by directing the conversation to other matters, leaving her condition and surroundings for foreign topics, the duration of the interval between the fits could be considerably prolonged. She had been very much exercised and excited over the proposed marriage of a daughter, to which she was opposed, and for three days had neither slept nor eaten.

I ordered a cup of strong coffee—for I knew that she could not drink this beverage, in health without becoming exceedingly nervous and wakeful. Of this she took two teaspoonfuls once in ten minutes. She had only a slight spasm after the first dose, and in half an hour had fallen quietly asleep.

The next morning she felt greatly refreshed by her night's rest, but was still somewhat weak and exhausted. She had an indistinct recollection of my having been in her chamber the night previous, but knew nothing of having taken the coffee. I ordered tea instead of coffee, a generous diet, and for the future less excitement and fatigue. She recovered promptly without medicine.

As a rule hysteria occurs only in those women who have not

ceased to menstruate. Occasionally, however, we meet with well-marked examples thereof before puberty, and after the climacteric. It is rare to find an example of this strange affection in one who is more than fifty years of age. I will not detail the clinical history of this disease at the present time, but direct your attention to one or two points of practical interest in the case before you.

Hysteria incident to menstrual life.

We make a distinction between spasms and convulsions, which it will be well for you to bear in mind. Spasms are not necessarily, or even generally, accompanied by an entire loss of consciousness. Their manifestation is local and temporary. They leave the patient quite decidedly, and she becomes almost, if not altogether, rational in the interval. Convulsions, on the contrary, are soon, if not from the outset, characterized by a complete obliteration or suspension of the perceptive faculties. The patient knows nothing of what is going on around her. She may remain as oblivious during the interval as in the paroxysm. Convulsions are accompanied by a more general derangement of muscular action. The spasmodic movements are less apt to be local, and more frequently implicate the different sets of voluntary muscles in succession, beginning with those of the head, neck, and superior extremities.

Spasms *or* convulsions?

If you examine the eye of an hysterical subject, you may find that it is not changed in its appearance. The pupil is neither dilated nor contracted. Sometimes the eye is suffused, and the ball may be rolled upwards. Now and then there will be a marked difference in the size of the pupils, but this may or may not be pathognomonic. I am not aware that any author has observed this as a symptom of hysteria, but I am inclined to think that it is possessed of some significance as a diagnostic sign.

The pupil in hysteria.

Add to this that you may sometimes detect the patient looking at you askant, or slyly listening to what you say, breathing more regularly and freely, or having her spasms at longer intervals, when she discovers that you are quietly busying yourself with other topics of conversation. A little tact will sometimes enable you to cut the Gordian knot of diagnosis in the most complicated cases of this kind.

The patient's manner.

If the pulse is not perturbed, but keeps the even tenor of its

way, during both the paroxysm and the interval, it is an almost positive sign of hysteria. If the attack is referable to emotional causes, acting upon a too susceptible organism, the nervous symptoms that follow will almost certainly be tinted with some peculiarities. Loss of sleep is a powerful predisponent of this disease.

The pulse

Treatment. — Tact is no less important in the treatment than in the differential diagnosis of hysteria. In no other disease is it of more practical moment to be personally acquainted with your patient. If you know her peculiarities beforehand, the case may be said to be half cured at the outset. There are a thousand little items which the physician who is observant gathers up and stores away against a time of need. And it often happens that what would appear trivial, turns out in the end to be most significant and useful. For, in this manner, he may not only interpret the meaning of certain extraordinary and alarming symptoms, when they are present, but may be led at once to the selection of the remedy proper to the case.

Value of tact.

However much we may pride ourselves upon our scientific attainments, I assure you that our patients are prone to estimate our professional capacity and skill, by our ability to turn all sorts of expedients to the best account, at the shortest possible notice. They will think more of you, if you can effect a cure with some simple and harmless domestic remedy which they have overlooked, like the coffee in this case, than if you go through the labor and take the time and pains to select the appropriate simillimum. Keep your quiver full of arrows, and be ready for any emergency.

Value of impromtu resources.

I know of no remedy so well adapted to the relief of nervous symptoms, caused by mental fret and friction, and accompanied by insomnia, or wakefulness, as coffee. A characteristic indication for it is found when the patient "cannot sleep for thinking." The mind will not rest. The mental faculties are more than usually and incessantly active. The fact that coffee disagrees with a person when she is well, may afford you a clinical hint which will be available in prescribing for her when ill. The coffee may be administered in the crude form, in the lower, medium, or even the higher potencies, with equally good results, as in the case I have cited. In some forms of hys-

Coffea.

terical neuralgia, you may effect a prompt cure with caffeine in the third decimal trituration. In one form or another, coffea has appeared to me to be very well adapted to many of the nervous affections of old people, and of old ladies especially.

Caulophyllin.

Of late years I have often prescribed caulophyllin for nervous conditions that were post-climacteric, with excellent results. One of my private patients who is an estimable old lady, and who has had a great deal of mental care and anxiety on account of her children, suffers from attacks that border very closely upon hysteria. They are characterized by great nervous tension and unrest, with wakefulness and a propensity to work and worry over little things which she would not notice at other times. The caulophyllin has such a soothing and delightful effect upon her that she calls it my hasheesh, and she would not be without it for any consideration. She takes it in the third decimal trituration.

DIABETES AT THE CLIMACTERIC.

The occurrence of diabetes at the menopause is not infrequent, and should be thought of in case of eczema of the vulva and pruritus. (See pages 512 and 528.) The affection may be chronic, in which case it is symptomatic of tuberculosis, or acute and transient, as it sometimes is during pregnancy. Its chief constitutional symptoms are insomnia, flushings that are followed by chills and rigors, irritability of temper, hypochondria, anorexia and emaciation, with or without a cough. We have elsewhere considered this subject very carefully and extensively. (*Clinique* Vol. V, pages 16 and 148, and Vol. VII, page 181). One of the most interesting monographs upon any medical topic that has recently appeared is that of Lecorché upon saccharine diabetes in women.*

*Du Diabète Sucré chez la Femme par le Docteur Lecorché, etc., etc., Paris, 1886, pp. 403.

LECTURE XXXII.

INCIPIENT PARALYSIS AT THE CLIMACTERIC.

Incipient paralysis at the climacteric. Post-climacteric neurosis. Climacteric rheumatism. Bilious colic at the climacteric. Prolapsus uteri, with dropsy, dating from the climacteric. Post-climacteric anasarca.

Case.—Mrs. ——, aged 48, has had eight children. The last two labors were very difficult, from a fall which she received during her sixth pregnancy. She now complains of pain "low down" on the left side of the spine. This is worse before the flow, which is very scanty. She also has some pain, of a pricking character and numbness in the right arm, there is vertigo, and she cannot sleep after 4 o'clock in the morning. Belladonna 3, four times a day.

April 10. The numbness in the arm, is better, but she complains of pain in the vertex, and vertigo. Her feet get cold, and she has cold creepings followed by hot flashes, sometimes she gets blind for a time. She always feels better when lying down, but is very apprehensive of danger. Aconite 3.

April 24. She is very much better; her back does not ache so much, the headache and vertigo are better, but the numbness of the arm is about the same. The menses have returned, but were less free than before. She has a good deal of pain before the flow comes on, and after it ceases there is a profuse leucorrhœal discharge, which is acrid and accompanied by bearing-down pains. Sometimes this discharge is thin and watery and lasts about two weeks. Kreosotum 3, four times a day.

May 15. Better in every respect. Same remedy.

June 5. Is not so well, menses are growing more scanty, and the thin excoriating discharge is more profuse, but the headache and numbness are relieved. Nitric acid 6.

June 19. Better in all respects, except the pain in the back. Same remedy.

July 3. The arm and head are very much better, she sleeps well now. Same remedy.

July 17. Her backache is very troublesome, and is worse in the left lumbar region. The pain in the head and arm are still improving. Merc. sol. 3, four times a day.

July 31. The pain in the back continues, but she is much better in other respects. Merc. sol. 3.

Aug. 28. She is improving somewhat, but the hand feels numb,

and there are darting pains in the arm, and cramps in the right limb. Rhus tox., 3.

Sept. 11. The right arm is well, and the pain has gone to the left one which cracks in every joint whenever she moves it. The arm and hand burn, there is still pain in the back, and she has frightful dreams. Rhus tox., 3, four times a day.

Jan. 8. The patient after an absence of several months of comparative freedom from suffering returned, complaining of the old pain in her back, arm and shoulder. The menses have been very irregular and scant. Bryonia 3.

March 12. She has pains in her arms and wrists, and hot flushes of the face. Bell. 3.

April 23. The pain now extends the whole length of the right arm, which is hot and feels as if it was swollen, and is worse at night. She has chills, followed by headache and if she stands long her feet swell. She has an eruption at times on the lower limbs. Apis 3, three times a day.

May 28. Her arm is still painful, and is worse on lying down, and at night. She still has some pain in her head, with attacks of vertigo. At times she is cold all over and is only relieved by being rubbed. Merc. sol. 6, four times a day.

June 4. She is much better. Continue same remedy.

Sept. 24. Her chief complaint is of a pain in her right shoulder, which becomes cold and is worse at night, so that she cannot sleep, and she is unable to use it. The eruption still annoys her, and is now on the arms also. Nux 3, three times a day.

[She continued to report from time to time, and with the final cessation of the menses the symptoms of incipient paralysis disappeared. The eruption, however, lingered for some weeks, being limited exclusively to the extremities, both upper and lower. The cold creepings and the hot flashes disappeared when the eruption came, and did not return. The best remedy was sulphur 30.]

Critical diseases may precede the arrest.

You are not to suppose that the diseases of the climacteric include those affections only which follow the final arrest of the menses. For it may happen that they shall anticipate that period, just as a child may be ill from teething some weeks or even some months before the teeth can be seen. This crisis often forecasts itself in the diseases to which most women are subject, at and after the age of forty; and there are certain classes of patients in whom you will find that this influence is quite peculiar. Most women who are of a plethoric habit, and especially those who have grown

stout and fleshy as they have grown older, find themselves menstruating more scantily, and little by little the flow ceases until it finally stops. In proportion as it diminishes a series of nervous derangements are developed, which depend upon a congestion of the cerebro-spinal centres, and apoplectic and paralytic symptoms creep on insidiously.

Under these circumstances it may be of the utmost importance to recognize the significance of these symptoms, and to be able to tide the patient over her difficulty. If we can shield her from an impending paralysis, and keep her from being a physical wreck for the balance of her life, we shall have done a good deed, and one that will bring a grateful after-glow to our own experience.

Prophylaxis of the menopause.

There is nothing very striking in the recital of this poor woman's case, or in the choice of remedies for its cure, but the result was all that could have been desired. It serves to illustrate the fact that in our practical lives as gynæcologists we must not always expect very prompt and immediate results from our treatment. For where a slowly coming crisis like the climacteric is concerned, we may need to persevere for many months before our object is finally accomplished.

Points in this case.

I ought to tell you that it is not an infrequent occurrence for the uterine discharges to become thin, watery, and more or less acrid and excoriating as the change of life approaches; and that, therefore, you are not to conclude that such a patient is certain to fall a victim to one of the forms of uterine cancer. This kind of a discharge, in this class of cases, is self-limited and not malignant. But bearing in mind that cancer of the womb is more frequent after the climacteric, you should be careful in promising an exemption from that terrible disease while the discharge continues to be corrosive in character.

Significance of the discharge at the change.

It is for the relief of this kind of a discharge, in connection with the menses at the menopause, that I prefer the use of nitric acid, and sometimes of kreosotum, either of which may be given in the third or the sixth dilution. When the menses are scanty with flushings of the face and vertigo, sanguinaria 3, is often an excellent remedy. For the throbbing pulsations, and local determinations of blood

Remedies for the acrid flow.

to the head and to the spine, which threaten to end in paralysis, glonoine is a better remedy than lachesis.

POST-CLIMACTERIC NEUROSIS.

Case.—Mrs. ——, German, aged sixty, midwife, has been an invalid for eight years past. Her menses ceased without any other ill effect than that, when they stopped, she became subject to distention of the stomach and abdomen, with shooting, stabbing pains that came mostly at night and forced her to cry so loud that her neighbors could hear her. The seat of these pains, here and there over the abdomen, sometimes became swollen and tender to the touch. For months at a time she has not been entirely free from this local hyperæsthesia. The bloating of the stomach is sometimes accompanied by a burning pain at the epigastrium.

This patient has been prescribed for by many physicians, but without relief. Last year she made a voyage to Germany expressly to consult certain eminent practitioners, but derived no benefit from their prescriptions. Through the advice of a neighbor, she came here three weeks ago, and I recognized the relation existing between her symptoms and the menopause. For it may happen that the remote consequences of this important "change" shall be entailed upon a woman for many years after the flow has ceased. My first prescription was the citrate of iron and strychnia in the 3d decimal trituration; but it did her no good. At the next visit she took atropine in the same potency, to be repeated every three hours. You have heard her story and can believe her when she says that for eight years she has not been so free from suffering as since she has taken that remedy. We will continue it, but repeat it only thrice daily.

CLIMACTERIC RHEUMATISM.

Case.—This patient is forty-five years old, married, and has had several children. She now complains of pains in her shoulders and chest, which she thinks were caused by taking cold about a year ago. At that time, an abscess formed in her left breast, which was lanced and discharged freely. She was not nursing at the time. Her menstruation was established at eighteen, and still continues. For six months previous to the flow, she had been afflicted with blindness, which came in paroxysms in the afternoon, and continued until the next morning. The flow now lasts a week, and is copious, causing great exhaustion. There is a cold

sensation extending from the knees down to the feet, which are always cold. Silicea 3, four times a day.

May 12. Is feeling much better; has some pains across her shoulders, but is gaining strength. Silicea 3.

May 19. The patient was improving until, being unfortunately exposed to the rain, she took a severe cold, and the old pains in the neck and shoulders have returned. The menses are also delayed. Rhus tox. 3.

June 2. The pain in the shoulders has disappeared, but there is still some in the region of the stomach and liver, which she thinks is aggravated upon taking a deep inspiration. The menses have not yet appeared. Rhus tox. 3.

[The record shows that this patient afterward suffered from muscular rheumatism in other parts of the body, but chiefly in the fleshy parts of the arms, for which she took macrotin with the best effect. The menses came less frequently, and finally ceased altogether, after which the rheumatism soon disappeared.]

Rheumatism at the climacteric is quite as much of an outlaw as it is under other and very different conditions. This case was cured by macrotin 3, under indications which have come to be regarded as reliable. A little while ago, you remember, we cured another case with nux vomica 3, when, along with the rheumatic pain in the right arm, there was formication, or a feeling as if ants were crawling beneath the skin. Other cases have been cured with gelsemium, cactus, lachesis, aconite, and sanguinaria.

Remedies for.

BILIOUS COLIC AT THE CLIMACTERIC.

Case.—Mrs. T. aged 52, ceased to menstruate four years ago. For two years before the change came she had been subject to what her physician said were attacks of bilious colic that were due to the passage of gall-stones. After the flow stopped these attacks of the colic became less severe, but they still continued to recur at intervals of from three to ten days, when she applied to this clinic six weeks ago. She has been forced to be very careful in her diet, and has observed that when the fit comes on, if she lies down and keeps very quiet it is less severe and passes off more quickly. She says that her mother died of cancer of the stomach.

Concerning the cause of the difficulty she is firmly persuaded that it was due to fright. The circumstances were that, while she was menstruating, word was brought to her that her child was dead. He was soon brought home from school in a horrible fit, after which he was ill for a long time and she nursed him. When this happened she had already had some warning of the approach

of the climacteric; and after this fright and worry she not only had the attacks of colic, but she became very irregular and suffered more than usual at the month.

For the first fortnight she took china 3, three times daily, with the effect to lessen the severity of the paroxysms, but they still continued to return as before. She was then put upon chamomilla 3, and improved in every way. In a little while she observed that a single dose of this remedy would snuff out a paroxysm, and soon they ceased coming altogether.

Complications at the climacteric.

If the change of life always came at a certain age, and if its advent could influence the health of women for a certain period only, before its arrival, we should be better able to estimate its effects in a clinical way, and also to prescribe for them intelligently. But when a woman has been out of health for two years in anticipation of this epoch, and when during that period she has been exposed to an exciting cause that would certainly have made her ill at any other time, the morbid conditions are so complicated that it is very difficult to solve them. If we add to this, as in the case under review, a manifest predisposition to a disease, or a dyscrasia like that of cancer, we shall be very chary of promising to cure the patient, or even to make her comfortable for any considerable length of time.

A qualified prognosis.

You have witnessed the remarkable effect of chamomilla in this case, and the delight with which our patient ascribed the result to the remedy; but I must warn you not to conclude that her disease is radically cured.

PROLAPSUS UTERI WITH DROPSY, DATING FROM THE CLIMACTERIC PERIOD.

Case.—Mrs. ——, aged 52, has had four children, the youngest of which is now fifteen years old. She has had but one abortion, and that occurred prior to the birth of her last child. Her menstruation was first established at the age of twelve years, and it ceased at forty, that is to say twelve years ago. She says that her mother met with her "change" at the same age. The first symptom of ill health that this woman remarked in her own case, was a bloated feeling in the abdomen, which was sometimes quite full and distended, and again would subside to almost its natural size. This enlargement, she says, was uniform in its development, and not limited to any particular portion of the abdomen. There has been no tenderness on pressure, and no soreness. The swell-

ing is notably increased by exercise, and is accompanied by bloating and puffiness of the limbs, the feet, and the face.

The bowels are habitually constipated, and if she fails to take a laxative pill, she has a great deal of straining at stool, and finally passes only dry, hard scybala. By reason of this urging at stool, she is quite positive that the womb is sometimes very much prolapsed, so much so, indeed, as to threaten protrusion from the vulva. She is also certain that at these times she has felt it lying between the labia majora. When she lies with the head low and the hips raised, the "tumor" disappears. The Dispensary Physician, has made a careful vaginal examination of this case, and diagnosticates it as one of confirmed prolapsus uteri. The swelling of the integument is evidently dropsical, as is proved by its "pitting" under the pressure of my finger. The urine is scanty and high colored; the appetite capricious.

Uterine displacements are so frequently related, either directly or indirectly, to abortion and to labor at term, that it will be well for you, in every case, to inquire whether the patient has recently passed through the process of parturition. This woman's last labor occurred fifteen years ago, and the probability that the uterine deviation dates from that event is very much lessened by the fact that it was not noticed until three years later. The prolapsus came on with the "change," or the advent of the grand climacteric, which, in her case, occurred at the early age of forty years. It is, therefore, possible for the uterus to become displaced at the end of the child-bearing period, and from other causes than a defect in its proper involution, or folding upon itself, after labor.

Parturition a cause of uterine deviations, and the climacteric period predisposes thereto.

Now the most obvious reason why she, at her time of life, has a prolapsus so decided, and which is only remotely, if at all, related to pregnancy, is the co-existence of dropsy, to which many women are liable at the climacteric. The ascites and general anasarca are indicative of a weakened and relaxed fibre, which strongly predisposes to uterine displacements. Add to this the direct pressure imposed upon the womb, also the semi-paralyzed condition of the rectum, and of the perineum (which has lost its resiliency), and the displacement downwards, even to the extent of procidentia, is readily explained. The only support that the uterus has from below, is from the contractile wall of the vagina, which rests like a column upon the perineum; and the chief muscles of the latter are con-

Dropsy at the climacteric, and constipation, causes of prolapsus.

nected with the rectum and the anus. In the constipation which is incident to chronic cases of this kind, the tone and elasticity of these tissues is partially or wholly lost. The straining at stool may therefore not only serve to perpetuate the luxation, but also to change its degree, and even its variety. It may convert a case of retroflexion into one of retroversion, or of simple prolapsus into procidentia. This relaxed or weakened condition of the muscular floor of the pelvis is, as I have already said, much more likely to follow upon the heels of labor, either premature or at term; but it also occurs in those who, like this patient, have borne numerous children, and who become subsequently afflicted with protracted and debilitating disease.

Treatment.—The relief afforded by the horizontal position, with the hips elevated, is significant. Many cases of prolapsus need but little beside appropriate postural treatment. It often happens that the displaced uterus will gravitate into its proper position, if the patient can keep off her feet. But it is not always possible, nor would it be best, for women with this infirmity to go to bed and remain there. Those of the poorer classes must work, and they all need exercise. And thus it may become necessary to supply a means of support which shall supplement the relaxed muscular fibre of the vagina and of the perineum. It is in just such examples of prolapsus as this, occurring in women somewhat advanced in life, who are ill in other respects, and constitutionally weak, and withal obliged to walk and to work daily, that I am accustomed to recommend the wearing of the perineal pad, as a means of temporary relief. It will accomplish more, and is more available in most instances, than any other form of supporter. In conjunction with the proper internal remedies, its effect is to tone up the parts which afford the natural support for the uterus, and at the same time to allow the patient to move about with impunity. I shall speak, in a subsequent lecture, of the proper indications for pessaries, and the value of them in this and other forms of uterine displacement, as they occur under different circumstances.

Postural treatment, and the perineal pad.

It is important that this patient should refrain from all violent exercise, more especially from lifting heavy weights, and from scrubbing, sweeping and ironing. She should not permit herself to

Hygienic precautions, and remedies.

strain at stool, neither sit in a constrained position for any considerable time. Her food should consist largely of albuminous matters, designed to improve the quality of the blood; and of vegetable substances, particularly of such as are somewhat laxative, as fruits, and bread made of unbolted flour.

The remedies that are most prominently indicated for this particular case are nux vomica and apis mellifica. And, since neither of them will cover the two sets of symptoms which are present, I recommend them to be given in alternation, the former at evening, and the latter in the morning and at noon of each day. The nux vomica is especially indicated on account of the constipation, the straining at stool, the passage of scybala, and the threatened escape of the uterus from the pelvic cavity. There are the best possible pathogentic and physiological reasons for its employment, although in chronic cases like this, I think it should not be given more than once or twice daily. In similar cases, lycopodium, or sepia, will sometimes prove of the greatest utility.

Internal remedies.

The manifest relation between the commencement of the dropsical symptoms, and the arrest or cessation of the menstrual function furnishes us with a characteristic indication for the apis mellifica. In using this remedy, my own preference is for the second or third decimal triturations.

POST-CLIMACTERIC ANASARCA.

Case.—Mrs. ——, is 66 years old. She is married, has borne sixteen living children, and has had two miscarriages. Ten of the sixteen children died before they were one year old. She has been constantly ill for six or seven years. The menses apparently ceased at the age of fifty-two, but were intermittent and irregular during the three following years. She had always flowed copiously at the month, and suffered much from exhaustion. There is now a general anasarca. The urine is scant; there is pain in the kidneys, and her limbs "burn like fire." There are also varicose veins of the lower extremities. She has some vertigo, but the appetite and the sleep are good. Hamamelis 3.

May 26. She thinks there is some improvement, but the urine is still scant; her limbs burn, and the veins are still swollen. Hamamelis 3.

June 2. She is feeling very much better; her limbs are less troublesome; the quantity of urine has increased, and with that all

the symptoms are improved. Continue the hamamelis 3, three times a day.

The two prominent factors in this case were such as often co-exist, viz. (1) a tardy venous circulation, and (2) anæmia. Both these conditions are incident to the hæmorrhagic diathesis. We know that this patient was a hæmorrhagic subject because she flowed so freely at the month, and because she was the victim not only of varicose veins, but of dropsy from a sluggishness of the general circulation. I have often verified the indications for hamamelis in cases like this, and I urge you not to forget that, although it is not classed among the remedies which are especially suited to the climacteric, it is nevertheless, of great service under these peculiar conditions.

The hæmorrhagic diathesis at the menopause.

I cannot refrain from expressing the opinion that the slight tenure of life of ten of this poor woman's children, who died before they were a year old, was chargable to the impoverished condition of her blood, made worse by pregnancy and lactation, just as it has been by the climacteric.

PART EIGHTH.

DISEASES THAT MAY OCCUR IN MORE THAN ONE OF THE CRITICAL PERIODS TO WHICH WOMEN ARE SUBJECT.

LECTURE XXXIII.

AFFECTIONS OF THE EXTERNAL GENERATIVE ORGANS.

Pruritus of the vulva. Abscess of the labia and of the vulvo-vaginal gland. Vulvo-vaginitis. Prurigenous vulvitis. Infantile leucorrhœa.

Although, as we have seen, some of the diseases of women are limited to a single crisis, in which case we can classify and study them separately, yet very often two or more of these periods may merge and be involved in their clinical history. The etiology of this class of cases is therefore complicated, and their special pathology and treatment difficult. Some of them date from puberty, but all of them are more or less intimately related to the allied functions of menstruation and reproduction.

The diseases which naturally come under this section of our subject are those which affect the external and internal generative organs, the bladder, and the rectum. They are chiefly local in character, and have this peculiarity in common, that, while they may occur in either or all of the periods of which we have spoken, their treatment is partly medical and partly surgical. This gives a remarkable interest to their clinical study, for physicians are not agreed upon the relative merits of these two methods of treatment; nor are we always prepared to say where one should end and the other should begin, where one is better than the other, or where they should be used conjointly.

PRURITUS OF THE VULVA.

Case. — Mrs. ——, a healthy looking woman, has an infant of three months, which is her third child. She says that when the babe was a month old she began to suffer from an itching of the external genitals. At times this itching is almost insupportable, and she really feels as if she might become insane in consequence of it. She describes it as worse at evening, after being much upon her feet during the day. There is a mucous secretion from the vagina which is sometimes quite copious, but generally scanty, and which she has observed is very apt to dry upon the parts exposed to the air, where it forms into scales that are easily detached by rubbing. Urination is sometimes followed by scalding and burning sensations, which are referred to the vulva rather than to the urethra. Coitus is painful, and apt to be succeeded by a pinkish discharge from the vulvo-vaginal canal. She had this local trouble while nursing both her former children, with the last of which it continued for more than a year. Her skin is fair, and to her knowledge she has never had any eruption. The babe is well, and thrives upon the breast exclusively.

This form of prurigo usually depends upon inflammation of some portion of the mucous membrane lining the vulva. It is incident both to the purulent and the follicular forms of vulvitis, of which pruritus is the most distressing symptom. Among the causes which may induce it are, a lack of cleanliness; the contact of acrid vaginal secretions, as in leucorrhœa, uterine cancer, etc.; masturbation; gonorrhœa; syphilis; vegetative growths; ascarides, indigestion; diabetes; and the use of alcoholic drinks or highly seasoned food. Sometimes it is caused by acrid vaginal discharges poured out during pregnancy, and may result in abortion. Again, it is developed during lactation, and will not cease entirely until the child is weaned. In little girls it may accompany the exanthemata, and disappear with them. In women, it sometimes alternates with a chronic eruption to which they have been subject. In very nervous persons, it may possibly arise from simple hyperæsthesia of the mucous membrane. There may be aphthous ulceration, or perhaps an herpetic or eczematous eruption, or an abrasion at the junction of the mucous membrane with the skin, which shall be sufficient to account for the suffering. Not unfrequently the sur-

Various causes.

face is so heated and inflamed that the mucus secreted is dried upon the parts, and this causes such intolerable itching that, no matter where she is, or what her surroundings, the patient cannot refrain from rubbing or scratching. Another cause of this troublesome affection in certain cases is disease of the uterine cervix. Some attacks of pruritus pudendi have been attributed to a varicose condition of the veins of the vagina. Others are known to arise from the presence either of a peculiar parasite (pediculus pubis), or of the itch insect (acarus scabiei), in the hairy portion of the mons veneris.

Dr. Meigs reports the following case :*

"I was consulted for a young lady about twenty years of age, who suffered from an intolerable pruritus and uneasiness of the vulva. Her physician had prescribed many and various remedies in vain. He had examined, by inspection, the privities, but could not discover the cause ; which, however, was not dissipated by his application of nitrate of silver and other medicines. When I was called to give my opinion of the case, I was much surprised to find it attributable to a real trichiasis of the vulva. The hairs that grow usually on the derma, and then not very close to the epithelial surface, had sprung from the very margin of the mucous membrane of each labium. They were straight, like eyelashes, and pointed inwards. It was from the tickling and pricking of the points of these hairs that her distress arose. They were all removed by her nurse, with tweezers, and the complaint disappeared."

Pruritus from trichiasis. Case.

The itching, burning or stinging sensation, whichever it may be, is not always constant, but remits and intermits. It may be aggravated by exercise, fatigue, excessive heat of the weather, standing before a fire, by the warmth of the bed, by mental emotion, passional excitement, or urination. It may be worse at evening and at night, thus preventing rest and sleep. Sometimes the patient is compelled to leave her bed and walk about the room in order to obtain the least respite from her suffering. It worries her into a nervous state, rendering her unhappy, petulant and ill. The paroxysms may be so severe as almost to drive her crazy. Sometimes

Clinical history.

* Woman : her Diseases and Remedies, etc. Phila., 1859 ; p. 96.

they give rise to local spasm in the form of vaginismus, or in a more general way to an hysterical fit. In the mildest variety the cutaneous surface of the larger labia is the seat of formication, or crawling sensations, which torture the patient exceedingly. In this case she will insist that multitudes of little insects are running over the external generative organs. When the mucous membrane reflected over the clitoris is the seat of the itching, the case develops into one of nymphomania.

The scratching and rubbing of the parts really affords but little permanent relief, and yet it is impossible for the poor victim to resist such a propensity. In this manner the surface is sometimes so severely wounded that extensive injury is done to the soft tissues. In case there is an eruption, the vesiculæ are broken and the nails may cause extensive abrasions and ulceration. Sometimes the sensation of heat in the parts affected is even worse than the itching.

Lesions from self-inflicted wounds.

In some women the attack precedes the menstrual flow. The physiological determination of blood to the pelvic viscera, and the irritable condition of the vulvo-vaginal glands and nerves, which usher in the "period," seem sufficient to account for this result. These persons become exceedingly nervous, and suffer greatly at such times. They are on the eve of an hysterical paroxysm, it may be for hours together; fitful, capricious, disheartened, and sometimes almost demoralized. When the flow commences the crisis is soon past, and the pruritus may not return during the month. In such cases the proper menstrual flow is often supplemented by a copious leucorrhœal discharge. The most intractable examples of neuralgic and spasmodic dysmenorrhœa may originate in this form of pruritus. Sometimes the pruritus comes on for a few nights after the cessation of the flow at each period. Or it may be due to menstrual suppression, constituting the prurigo latens of Alibert. The liability to this painful disorder appears to increase with advancing age. Not unfrequently it occurs at the climacteric. A considerable proportion of women suffer more or less from it about the time the menses cease.

May precede the menstrual period.

Pruritus with dysmenorrhœa and amenorrhœa.

Pruritus at the climacteric.

This itching of the genitals is also one of the contingents of

pregnancy. It is more apt to come on after than before the third month, and may either cause abortion, or continue to term. Some women always have it when they are pregnant. Here is a striking instance of general and local pruritus in a pregnant woman, published by M. Maslieurat-Lagémard.*

Pruritus during pregnancy.

"Mrs. ——, aged 32, first became pregnant when twenty-one years old. Prior to the sixth month she suffered but little from the disorders incident to gestation; but after that time, and without any apparent cause, she was attacked with intense pruritus, which extended over the whole body. The legs, thighs and genitals were first seized, but at the eighth month the itching extended even to the palms of the hands and the soles of the feet. The rubbing and scratching, which she could not resist or avoid, caused premature labor, immediately following which the irritation ceased. She became pregnant again, and, as before, continued well until the sixth month. Then the pruritus returned, and continued until the seventh month, when she miscarried. This experience was repeated six times in succession; so that in all she had eight premature labors which were due to excessive pruritus."

Case.

Diseases about and within the uterine cervix are sometimes accompanied by an inveterate pruritus, which may exist for years, and defy all ordinary modes of treatment. It may be due to simple induration, or ulceration of the cervix, endo-metritis, hydatids, polypi, or fibroids. A very painful form of it may arise from inoculation and irritation caused by contact of matters with cauliflower excrescence; and some authors believe that pruritus of the vulva is, under peculiar circumstances, a suspicious sign of uterine cancer in its earliest stages. (?) In other cases, uterine disease is caused by an extension of the inflammation, which is attendant upon the pruritus, from the vulva to the uterine cavity.

Complicated with uterine disease.

As in this case, this troublesome affection may torment the woman only during the nursing period. Under these circumstances, weaning will generally cure it with as much certainty and promptness as did the emptying of the womb in the example just quoted.

Limited to the period of lactation

* Gazette Médicale, 15 Mars, 1848, p. 204.

The danger from pruritus of the vulva is that it may persist until it has so exhausted the nervous energies as to leave the system an easy prey to organic disease. Inveterate cases are likely to be accompanied by digestive disorders of the most serious nature. The prognosis will therefore vary with the clinical history, the cause, the complications, and the duration of the disease, as well as with the temperament, time of life, dyscrasia, and the original strength and vigor of the patient.

Prognosis.

Treatment. — This is local and general. It would be cruel to deny our patient the use of such palliatives as will mitigate her sufferings without in the least interfering with the cure of her complaint. And, since the local expedients to which you will be obliged to resort must vary in different cases, you should possess an ample stock of them in the outset.

First of all is cleanliness, which can be secured by having the parts frequently bathed with suds from castile soap. The honey and juniper tar soaps answer equally well. Pledgets of old, soft linen may be wet either with cold or warm water, as the patient prefers, and applied frequently. Or wheat-bran water may be used in the same way, and, in some cases, injected per vaginum. If there is a vesicular eruption, with a raw surface, or the burning in the urethra and dysuria are very marked, water, or glycerine, or both, may be medicated with the tincture of cantharis, and applied to the vulva by means of compresses. The urtica urens is appropriate to the erythematous form, with a scarlet surface of the mucous membrane, and where there is complaint of burning and stinging as from nettles.

Topical palliatives.

In case of aphthous ulceration, you should not forget the common borax, and the hydrastis, both of which are in excellent repute as palliatives in this form of pruritus. An emulsion of olive oil and lime water is sometimes of excellent service. Or a roll of lint dipped in almond oil may be introduced into the vagina. Colombat recommends a lotion composed of a tablespoonful of cologne water to a teacupful of warm water. Lisfranc prefers a mixture of starch five parts, and camphor one part, to be applied once daily to the inflamed surface, the latter having been washed before the preparation is used. Scanzoni extols a liniment com-

posed of chloroform two parts and almond oil thirty parts. Hewitt prefers them in the proportion of one part of the former to six of the latter. In extreme cases, others prescribe a mixture of melted lard and chloroform. Or the rhigolene, ether, or chloroform spray may be used exceptionally.

If there is considerable local inflammation, I am in the habit of prescribing a poultice of ground slippery elm, or of linseed meal.

For vulvitis, syphilitic or otherwise.

If the case is chronic, and very obstinate, more especially if it is syphilitic, the surface may be painted over with a solution of the nitrate of silver, composed of one grain to the ounce of distilled water. In other inveterate examples the chromic and hydrocyanic acids are permissible and useful.

If the itching is due to the presence of pediculi, a mixture consisting of the ointment of the yellow nitrate of mercury one part, and lard three parts, may be smeared over the pudenda. Or an infusion of tobacco may be applied locally with a view to disgust and destroy the parasite. In trichiasis of the vulva you may follow the treatment prescribed by Dr. Meigs, as quoted above. If the irritation is due to the presence of ascarides in the rectum or vagina, or both, injections of common salt and water, olive oil, or of a decoction of garlic, may be ordered.

For pediculi, ascarides, etc.

It is very important to enjoin quiet. The fresh air is, however, requisite. Sexual intercourse should generally, but not invariably, be forbidden. A proper, unstimulating diet should be chosen, and every form of alcoholic drink denied.

Rest, diet, etc.

I will not detain you with detailed indications for remedies that may require to be given internally. Let it suffice that the utmost importance must attach to the special cause and history of each individual case in which you are consulted. For there is no single specific for this affection, any more than there is for hysteria. Natrum muriaticum, sepia, silicea, sulphur, arsenicum, calcarea carb., conium, mercurius, and the various acids, are most frequently given.

Internal remedies.

Dr. Wm. Hunter found that the introduction of the female catheter would sometimes afford immediate and complete relief.

Others have recommended the application of a water-proof cloth made of rubber, or gold-beaters' skin. The local use of the essence of peppermint will answer in some cases.

Other expedients.

The use of agaricus muscarius has been advised; and my friend Dr. D. S. Smith of this city, and also Jousset and Bæhr praise the tincture of conium in a low dilution for internal and external use. Dr. W. H. Holcombe, of New Orleans, writes:* "When sympathetic with ovarian or uterine trouble, platina 6, internally, and caladium seguinum externally have rarely failed me. When vesicles or excoriations accompany the itching, graphites, internally and externally, is truly specific, but I give it low—the first decimal trituration for the wash, and the third decimal three times a day by the mouth. For the pruritus of young girls, with leucorrhœa, and associated with ascarius vermicularis, nightly injections of a strong decoction of garlic with an internal dose of ignatia are promptly curative."

Additional remedies.

In his Hom. Therapie., Vol. II, Kafka advises: "for itching of the *external labia*, mercurius 3, or kreosotum 3; for itching of the *mons veneris*, natrum muriaticum 6, or 30, or carbo vegetabilis 6; for itching of the *vagina*, if the sexual instinct is not increased, sulphur 30, graphites 6 or 30, natrum mur. 6-30, belladonna 6; ditto with erotismus and nisus sexualis excedens, nux vomica 6, cannabis indicus 3, calcarea carb. 6, zincum metallicum 6; with nymphomania, bartya carb. 6, nux vomica 3-6, ignatia 3-6, platina 6, zincum metal. 6. In all cases of pruritus pudenda lukewarm sitz-baths and full baths are to be recommended."

ABSCESS OF THE LABIA MAJORA AND OF THE VULVO-VAGINAL GLAND.

Special pathology of.

An abscess of the labia is the result of an inflammation of its cellular tissue, or of the vulvo-vaginal (Bartholin's) gland. For some unaccountable reason it is more frequent on the left than on the right side. When the first symptom observed is a hard tumor in the centre of the labium, without any superficial inflammation, the affection is glandular, and may be gonorrhœal or not. When the inflammation is specific, it has travelled along the duct before invading the gland; but the non-specific form may arise from simple obstruction of the

*The U. S. Medical and Surgical Journal, Vol. 8, p. 49.

duct. In both cases the abscess will discharge a very nauseous and offensive matter.

This form of abscess is most frequent between seventeen and thirty years of age. It is caused, in most cases, by traumatism of the genitals as in rape, and excessive coitus, and also by gonorrhœal vulvitis and vaginitis. Martineau reports the following cases: *

Causes of.

"The first was that of a young woman of 22, who, meeting her lover, from whom she had been separated during the siege of Paris during the commune in 1870-71, submitted to his embraces nine times in one night. There followed from it an abscess of the left vulvo-vaginal gland, for which she sought my advice. The cure was completed at the end of eight days.

Case.

"The second case was that of a young woman of 25 who lived with her parents and only saw her lover evenings. One evening between the hours of 8 and 11 coitus was repeated seven times. Two days after there was a slight itching of the labium majus, then smarting and swelling; the patient entered the hospital and I found an abscess of the left vulva-vaginal gland, which healed at the end of eight days.

Case.

"These are not isolated cases. The gynæcologists mention several and I doubt not physicians have occasion to see them in their practice, especially in young brides, where to excessive coitus must be added, difficulty of defloration and the fatigue of the bridal trip. Tardieu observed a case as the result of a rape; he cites a case in a girl of sixteen who was obliged to submit to the repeated assults of her ravisher at least twenty times in less than eight days."

It is sometimes connected with tardy menstruation. One of my patients has had twelve of these abscesses which in every instance has been connected with the menstrual period. More rarely it occurs during pregnancy, or as a result of the traumatism of the soft parts during labor.

The symptoms are pain in walking or sitting, a mild puritus and unusual moisture of the parts, swelling of the affected side, the formation of a small hot tumor, which is pear-shaped and which closes the vulvar orifice.

Symptoms.

*La France Medicale, July 21, 1880.

The mucous membrane covering the vaginal side of the tumor is congested and purplish, and the tumor soon becomes fluctuating. In from four to eight or ten days the abscess breaks and discharges its contents, but only perhaps to refill at the next monthly period, or to develop a fistula which may continue to discharge.

Martineau in his clinical lecture says:

"The diagnosis is generally easy. This pyriform tumor, situated at the entrance of the vulvar ring, between the labium majus, which it pushes outward, and the labium minus, which it flattens within, clearly detached from the neighboring parts and leaving intact the superior segment of the vulva, cannot be confounded with a stercoral abscess, with a presecto-vulvar abscess, nor with a purulent collection, proceeding from caries of the ischium. One will not confound this abscess with abscess of the labium majus. In fact, phlegmon of the greater lip is seated at the external portion of the vulva; it projects outward, not inward, like abscess of the vulvo-vaginal gland; finally, while the latter is habitually circumscribed and unilateral, phlegmon often becomes general, extending to the labia minora, the clitoris, and even according to Huguier, to the mons veneris."

Diagnosis.

FIG. 46. Abscess of the labia majora.

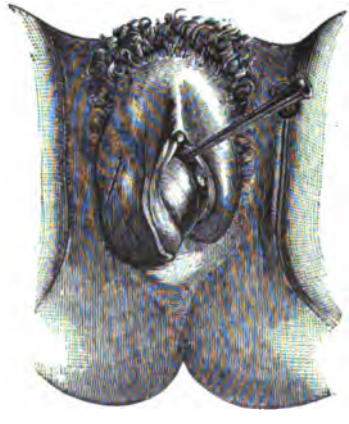


FIG. 47. Cyst of the duct of the vulvo-vaginal gland.

It is more difficult to diagnose between abscess and a cyst of the excretory duct. In both cases we find, on one side of the vulva, a globular tumor, of limited extent, springing from the interior of the vulvar ring, and pushing the large lip outward; but in case of the cyst, it is smaller, indolent, without reactionary

and inflammatory phenomena; its greater diameter is directed according to the transverse direction of the excretory duct, and pressure causes the escape of a colorless fluid, slightly viscous but not purulent.

It is very important not to confound an abscess of the labia with vulvar enterocele, lest you might plump a lancet into a hernial sac. The possibility of reducing the tumor by taxis, or of its disappearance in the recumbent posture, the impulse given to the tumor by coughing, and the absence of constitutional symptoms, are the signs by which you would know that a knuckle of intestine had been forced into the labium.

Either with or without our help, these abscesses must be discharged of their contents. It is a question whether more harm than good is not done by opening them too early. Guerin and Martineau have observed that fistulæ are often caused in this way. The latter advises to wait for such an abscess to open itself through the mucous membrane or through the excretory duct of the gland. It generally breaks through the nympho-labial furrow, and the cure is speedy. If, however, the pain is very severe and the fluctuation is marked, it may be lanced in a direction that is perpendicular with the labium. In some cases it is best to keep the wound open with a cloth tent or a bit of charpie that has been wet with a solution of hydrate of chloral or of carbolic acid. When a fistula is formed, and the case becomes chronic, we need to dissect out the entire gland, which should be done very carefully on account of the hæmorrhage.

In the beginning such an abscess should be poulticed with slippery-elm or oat-meal. Flax-seed is objectionable in this case especially, because it becomes rancid. Dry heat applied by hot-water bags will give relief and hasten the suppurative process.

For a simple, non-specific abscess of this gland the best internal remedy is phytolacca. When it is blenorrhagic, mercurius, or kali jodatus, is preferable. If the process of suppuration is very slow, you may give hepar sulphur, or perhaps nux vomica, as has been recommended for anthrax. If the discharge is copious and too protracted, silicea will be indicated. If there is great debility and prostration, with a depraved condition of the blood which tends towards sloughing and gangrene, arsenicum, lachesis, and the mineral acids are called for. The early constitutional symp-

toms, the fever and chilliness will respond to the usual remedies such as aconite, belladonna and bryonia.

ECZEMA OF THE VULVA.

Case.—Miss — age 23, came to the sub-clinic for the cure of an eruption about the anus and along the vulva, from which she had suffered for about four weeks. The attack was preceded by a dysenteric diarrhœa with acrid and irritating discharges.. The stools were very frequent but not very copious. When the eruption began the bowel complaint ceased, and it has not returned, but instead she has had hæmorrhoids. The vulvar and anal irritation are very much increased during the monthly periods. She has never suffered from any other eruption.

A local examination revealed the existence of a patch of eczema which had evidently begun about the anus and extended over and beyound the labia majora. At some points there were vesicles, at others there were the dry scales of eczema. There was no vaginitis. Rhus tox., 3, internally, and Latour's collodian locally.

She continued to report, and the treatment was not changed except temporarily to substitute Cantharis 3. for the rhus toxicodendron. But as the eruption declined a new set of symptoms appeared, and she began to show signs of exfoliative endometritis, or a form of membranous dysmenorrhœa. This latter condition was preceded by an evident extension of the irritation, and possibly of the eruption also, along the vagina and towards the uterus.

In Lecture XIV I have spoken of this class of causes for membranous dysmenorrhœa. The case before you shows the possibility of the direct extension of the vulvar eruption along the vagina to the uterine cavity, and also of a lesion of the uterine mucous membrane which shall result in its being moulted at the return of the menstrual period.

VULVO-VAGINITIS.—PRURIGENOUS VULVITIS.

Case.—Mrs. T——, aged 45, English, married and the mother of eight children, was admitted to the hospital yesterday. She has never had a miscarriage. Three years ago she was troubled with a sudden arrest of the menses, which continued for eight months. They finally came on again spontaneously, and in the usual quantity, but the flow was subsequently attended with considerable pain. The climacteric was passed without any untoward symptoms one year ago.

During the period of arrest of the catamenia, this patient was treated for ulceration of the womb, which, she says, was accompanied by considerable discharge. At one time she remembers a sudden flow of "matter" which, she thinks, amounted in all to nearly or quite a tea-cup full. This discharge came suddenly "like the waters." There has been no trouble in micturition. The bowels have been constipated, and she has been annoyed with internal hæmorrhoids which occasionally bleed.

At present she complains of intense itching of the genitals, and says that pimples sometimes form on the labia and then burst. There is heat in the vagina, especially after exercise, and occasionally a slight, but never a copious, leucorrhœa.

She also has considerable pain in the right leg, which extends from the right iliac region in front, around and over the hip, and down the limb to the inner malleolus and the inside of the foot. This pain is not affected by changes of weather, but is aggravated by motion. The right knee-joint is enlarged, as in chronic synovitis.

On physical examination the uterus was found in position, and of normal size. Examination with the speculum revealed the mucous membrane lining the vagina and reflected over the vaginal portion of the cervix to be studded with a papulous eruption resembling prurigo. The same eruption extends over the vulva and the adjacent integuments.

This, gentlemen, is one of the old-fashioned women, whose maternal record is in every respect a creditable one. She has borne eight children, and has never suffered a miscarriage. If it were possible, I would take occasion to name all the physical and moral exemptions that she has enjoyed in consequence. Not the least among them is that she has escaped any serious illness at the climacteric.

An exceptional case.

Three years ago, at the age of 42, she had suppression of the menses for eight months. Meanwhile she received treatment for ulceration of the womb, but whether she ever had that disease, we do not know. It is very probable that her physician mistook the suppression for a sign of ulceration, and proceeded to cauterize her with a view to restore the catamenial flow. It is equally probable that the menstrual arrest was due to a physiological and not to a morbific cause, or in other words, that it was a sign of the approach of the "change of life;" for, as I have already said, such intermissions in the performance of this function are by no

Intermittent menstruation before the change.

means rare in women who have reached their fortieth year, and in whom the period for its entire cessation can not be very distant.

The probable cause for such a temporary arrest, and which is apt to be overlooked, is a failure in the ripening of the ovule, and in the dehiscence of the Graäfian follicle. By-and-by the function of ovulation is resumed and the menstrual flow re-appears.

Defective ovulation.

The muco-purulent discharge of which she speaks may have been due to a vicarious accumulation and retention within the uterine cavity, which finally found vent with the suddenness of a rupture of the bag of waters. She could not have had an abscess without previous local pain and suffering, and general constitutional symptoms, of which she makes no mention.

The sudden discharge.

Constipation is the rule in similar cases, and a woman at 45, who has had eight children, can hardly have escaped hæmorrhoids. Concerning the latter I have questioned her carefully, and find that they are not inveterate.

This prurigenous eruption is always accompanied by a loss of rest and sleep, constant irritation and distress. It is very apt to become chronic. The heat of the parts, and the torment sometimes occasioned by walking, sitting, intercourse, and physical exercise of every kind, are almost insupportable. If the characteristic peculiarities of the eruption have not been destroyed by the scratching and rubbing of the parts to which the poor victim is compelled to resort, the papulæ resemble those of prurigo when it is seated on other parts of the body, as, for example, the neck, shoulders, back and outer surfaces of the extremities. So much of it as is located upon the cutaneous surface of the labia, the perineum, and even about the anus, may be colorless and invisible, but if the parts have been wounded by friction, you may perhaps find little black scabs scattered here and there. Sometimes, as in this case, there are occasional vesicles and wheals, which are readily discharged.

Symptoms.

The eruption.

On the mucous side of the raphé and within the vagina, however, the color of the eruption differs from that of the surface upon which the papulæ are located. This is especially true in

the case of elderly women in whom there is no diffuse vaginitis, and whose vaginal mucous membrane has not recently been discolored either by pregnancy or menstruation. But, in younger persons, in whom the opposite condition of this membrane prevails, there would be very little difference in hue between them.

The color of.

The causes of this peculiar affection are really unknown. It has been ascribed to various infractions of the rules of hygiene, such as the eating of unwholesome food, and the lack of proper clothing, cleanliness and exercise, to sexual excesses, to the change of life, and to the non-elimination by the proper emunctories of certain impurities from the blood. It may alternate with chronic skin disease.

Causes.

There is a form of granular vaginitis from which pregnant women sometimes suffer that should not be confounded with this. In it the eruption, or rather the pin-head pimples, consists of myriads of little granulations which give rise to pain, heat, and sometimes to considerable discharge. It is self-limited, is not accompanied by vulvar prurigo, and terminates with delivery.

Diagnosis from granular vaginitis.

Prurigenous vulvitis, of which this is an example, can be distinguished from the follicular variety by the fact that in the latter the lesion is limited to the follicles which are found upon the vulva, and just within the ostium vaginæ. These follicles become inflamed and finally discharge a purulent or muco-purulent secretion which, in many cases, may be seen exuding from the mouths of the separate follicles. But these diseases often co-exist. Follicular vulvitis is also incident to gestation, and may occur as a contingent or sequel of the eruptive fevers, and of diphtheria. More frequently, however, it is due to a very depraved and vitiated habit. Sometimes it is a sequel of gonorrhœal inflammation.

From follicular vulvitis.

This form of vulvo-vaginitis not being purulent as it would be if the eruption were eczematous, or herpetic, or if the inflammation were more diffuse and deep-seated, the amount of the leucorrhœal discharge is not in proportion with the local suffering. Mrs. T. has but little flow of this kind. Where, however, the eruption and the inflammation extend within the cervix uteri, and possibly into the uterine cav-

The leucorrhœa.

ity, as there is good reason for believing that they sometimes do, the quantity of mucus and of pus secreted may be very large. In middle-aged and more vigorous subjects the presence of these little papulæ (as in case of other vegetative growths within the vulva), may excite a very troublesome leucorrhœa. If the discharge that is poured out is thin and serous in character, it is very apt to dry upon the parts and then to crack and break into little scales which cause an intolerable pruritus. Some of these patients will tell you that they have no leucorrhœa, when in fact they are deceived and the discharge is disposed of in this way. In rare instances the eruption invades the urethra and occasions a very persistent and troublesome form of urethritis.

The entire exemption of our patient from urinary troubles, such as strangury and the like, affords an indirect proof that she has not suffered from any variety of uterine deviation. For this reason I felt almost confident that her womb was *in situ* before passing the sound. You remember that the attachments between the neck of the uterus and the bladder are such that it is next to impossible to displace the former without pressing upon, or changing the position of, the latter. And when a woman tells you that she is not subject to, and has not suffered from, vesical troubles of any kind, you may be reasonably assured that her womb is where it should be. But you are not to conclude that because she has strangury, dysuria, etc., therefore her womb is displaced; for these symptoms may arise from other and very different causes.

A practical inference concerning uterine displacements.

The prognosis is generally favorable, but the time required for the cure will vary according to circumstances. Such cases recover more readily in winter than in summer, in cool than in warm climates, and in young than in old patients. Scrofulous persons, and those who are predisposed to aphthous conditions, or to chronic cutaneous eruptions of whatever kind, get well very slowly. The syphilitic taint may retard the cure. If it follows the climacteric very closely, or co-exists, as in the case before us, with rheumatism, we shall not be warranted in promising very speedy and permanent relief.

Prognosis.

Treatment.—As affording direct relief, and being capable of making life tolerable, the topical treatment is very important. The proper palliatives have already been mentioned when speak-

ing of pruritus of the vulva. Cleanliness, frequent bathing with cool or tepid water, and the application of a bland demulcent, as bran-water, glycerine, almond oil with or without chloroform, or of the muriate of hydrastin with glycerine, will answer an excellent purpose. Cloths or compresses anointed or saturated with one of these may be applied to the vulva; or the cotton tampon may be the vehicle for introducing the same into the vagina.

Topical treatment.

The diet should be plain and unstimulating, the exercise moderate, and coitus positively forbidden.

The internal remedies should be suited more especially to the character of the eruption, the patient's peculiar dyscrasia, and the relation of the disease to child-bearing and the climacteric. Among the remedies that may be required in different cases are rhus tox., sepia, sulphur, arsenicum, calcarea carb., conium, hydrastis, croton tig., carbo veg., mercurius, natrum mur., kali carb., creasotum, thuja and the mineral acids.

Constitutional treatment.

Taking the peculiar eruption, and the incidental rheumatic symptoms as a guide, I shall select the rhus tox. as the remedy for this patient. She will take of the 3d attenuation a dose every three hours. This frequent repetition is justified in her case by the severity of her rheumatism. She will also have the glycerine and hydrastin applied locally morning and evening.

INFANTILE LEUCORRHŒA.

There is a form of vulvo-vaginitis to which little girls are liable, and of which I may speak in this connection. The mucous membrane reflected over the vulva becomes so inflamed, heated and irritated, that the child has no rest, but is constantly tempted to relieve itself by rubbing the parts, which only increases the trouble and extends the inflammation. Sometimes the first symptom complained of is pain on passing water, which also creates a sense of scalding and itching. This is accompanied by dryness, redness, and heat of the inflamed surfaces. Soon, however, the parts become moist from the exu-

Symptoms.

dation of a thin, colorless mucus which, as the case progresses, becomes of a thick and creamy consistence.

The leucorrhœal flow.

The amount and quality of the leucorrhœal discharge varies with the constitutional taint, as well as with the duration of the disease. In scrofulous children, more especially if they have been allowed improper food and have not been kept in a cleanly, healthful condition, the leucorrhœal flow may be either very copious, or perhaps ichorous and corrosive. In bad cases of this kind there is not only inflammation, but ulceration also of the vaginal mucous membrane. When these patches of ulceration are present, they may be seen by stretching the labia apart. More rarely they are found in the upper portion of the vagina.

Causes.

The causes of this form of vaginitis in children are numerous. Sometimes the urine has such acrid properties as by its flow over the vaginal surface to induce this disease. Simple catarrhal urethritis may develop into vulvo-vaginitis. Or it may arise idiopathically from exposure to cold, or a sudden check of perspiration. Sometimes it takes the form of an epidemic, and prevails in winter along with a more or less severe influenza. I have known it to alternate with a severe and troublesome coryza. It may attack several children in the same family or neighborhood. Irritation of the rectum, and sometimes of the colon, may induce it. In some instances it is due to the presence of worms that have escaped at the anus, and crawled within the vaginal orifice, where, by their presence, they excite a great degree of itching and irritation. And sometimes there is no doubt that it has been caused by a mischievous rubbing and irritation of the parts by nurses and servants who have had the children in charge.

Treatment.

The proper treatment for cases of infantile leucorrhœa is first, if possible, to remove the cause. It is very important to avoid exposure to cold and wet, and to order a proper and digestible diet. Cleanliness, bathing and drying the parts carefully afterwards, either with a very soft towel, or better still, with an application of finely pulverized starch, or lycopodium powder, as in case of infants to prevent intertrigo, are very useful.

If the complaint is related to influenza, the internal remedies

will be the same as are suited to the epidemic catarrhal inflammation, no matter where it is located. If it occurs in scrofulous children, the remedies which suggest themselves, and which are most useful, are calcarea carb., hepar sulph., and mercurius. A majority of cases may be cured with pulsatilla, or calcarea carb.

Local and general.

If the passage of the urine occasions great suffering, give cantharis, and have cloths that have been dipped in warm water applied over the vulva. If there is ulceration, or aphthous inflammation, add hydrastin or calendula to the water. If ascarides have created the mischief, order lard to be smeared about the anus, or a decoction of garlic, or an injection of olive oil to be thrown into the bowel, and give the child teucrium.

It is important that children who have this affection should not be allowed to sleep in the same bed, or to be washed with the same towels as those who are healthy. For although the disease is not always easy of communication, yet it might happen that it would spread through a whole family of little ones, and occasion much suffering and anxiety. It is a pleasure to be able to assure the mother or nurse that, with proper time and care, this disease may be readily and certainly cured.

Isolation.

LECTURE XXXIV.

VASCULAR TUMOR OF THE MEATUS URINARIUS.

Vascular tumor of the meatus. Non-specific urethritis. Causes. Symptoms: posture, quality of the urine. Diagnosis; from cystitis; from gonorrhœa. Treatment; rest, diet and drinks, general indications and local treatment. Urethral fever, and fissure of the urethra. *Case.*—Pathology of. Treatment; sitz-baths in, treatment for the vesical and renal complications, and for urethral lacerations.

The refined and cultivated physician is sometimes at a loss to know when it is best to propose, and to insist upon the necessity for a physical examination of the female generative organs. He will not pander to the vulgar habit of resorting to this measure almost indiscriminately; while, for the sake of his patient's welfare, as well as of his own reputation as a skillful diagnostician and practitioner, he must not postpone it too long, neither neglect it entirely. So important is this matter that a physician's reputation is sometimes made or ruined by the rumor that he is in the habit of using the speculum on the slightest pretext, or that he is opposed to its employment altogether.

I am led to these reflections in consequence of the examination which I have just made of a case in the ante-room. This case had been attended by two physicians, one of whom pretended to have made a proper "examination" of the patient, while she refused to allow the other to do so. Both were wrong in their conclusions, and, consequently, neither of them did the patient any good.

Case.—Mrs. T——, 30 years of age, the mother of two children, the youngest of which is four years old, has been in poor health for twelve months. One year ago she got her feet wet while menstruating. She has not been well since. Prior to that date her menstruation had always been regular; but since that sudden check of the flow, the periods have returned every three weeks. There is no pain, but from time to time the flow is becoming more scanty.

Soon after the taking cold she began to have trouble in passing water. The inclination to urinate was very frequent, and sometimes quite irresistible. It was aggravated by being much upon the feet. Anxiety of mind, sudden good or bad news, and excite-

ment of any kind would induce a paroxysm. At first, but only for a short time, the urine was copious and colorless, but for many months it has been perfectly natural in quantity and quality. The only exception to this rule is that it has, once or twice, been a very little bloody.

The only real pain experienced is after the flow of urine, or rather, while the last drops are running away. This induces a burning, stinging pain, which is peculiar, and "very dreadful," to her. Walking is painful, and, for some reason which she can not explain, intercourse occasions the most excruciating suffering.

The first physician who treated her for this difficulty made an examination with the speculum, and after analyzing all the symptoms that were gathered, pronounced her to be suffering from "disease of the kidneys." After some months of treatment with no especial reference either to the menstrual or the urethral difficulties, she changed her physician for one of more intelligence and experience.

Her second physician prescribed for her for a time, and then requested permission to make an examination with the speculum. But it was denied, and he continued to treat her for "disease of the womb."

The physical examination just made discloses a vascular tumor which is nearly the size of my thumb-nail, at and within the mouth of the urethra. It is very tender to the touch, and of a cherry-red color. The urethra around and beyond it is tumefied and evidently somewhat inflamed. The womb is *in situ*, and the os uteri has a healthy appearance.

These vascular tumors, which are not at all infrequent, are very troublesome and often give rise to much suffering. They are located just at the mouth of the urethra, and within its canal, being attached thereto by a pedicle, like a polypus. They consist of a hypertrophy of the mucous papillæ, and are very vascular. Sometimes the tumor is lobulated; more rarely there are two instead of one. The pedicle may be so slender as to break very readily when you seize the growth with a pair of small forceps; or it may be firm and unyielding.

Nature and location.

The symptoms accompanying such a case have already been detailed in this report. Painful and frequent micturition, especially after exercise upon the feet; pain upon walking, intolerance of coitus, and the most peculiar and exquisite suffering with the passage of the last drops of urine, are almost pathognomonic. These symptoms may con-

Symptoms.

tinue until the patient is very weak and irritable. But the diagnosis can not be made with certainty except by a physical examination of the parts involved. Indeed this examination must be *visual*, for unless you see the tumor, you can not be certain of its existence.

The question recurs upon the necessity for such an examination. This woman, who lives within a stone's throw of the hospital, has suffered for twelve months when she might have been relieved in as many minutes. But two things were in the way of her getting well so speedily. The first was the ignorance of the doctor who examined her with a uterine speculum, and reported that she had "disease of the kidneys." How this instrument could aid in the diagnosis of renal disease, and what particular affection of the kidneys she was thought to have, I do not know.

Necessity for physical examination.

Obstacles to recovery in this case.

The second obstacle was her own shrinking sensitiveness, which would not permit the other physician (who was competent) to do as he thought best. And so she has failed to obtain the hoped-for relief.

How shall you act in similar cases? The best rule that I can suggest is that you wait a reasonable length of time, providing the symptoms are not very urgent. Give the appropriate remedies meanwhile, and place the patient under such hygienic regulations as will favor her recovery. But if the symptoms do not yield as they should, or if they show a decided tendency to relapse, the inference will be that there is a local cause which perpetuates the mischief, and prevents a radical cure by internal means, alone. Under such circumstances a few sensible and cogent reasons addressed to the patient, will satisfy her of the necessity of a local examination, and obtain her consent thereto. You can explain the case by saying that the persistence of the symptoms and their liability to return when they have been relieved, leads you to conclude that they do not afford a reliable criterion of the nature of her disease. And, above all things, assure her beforehand that you will on no account proceed to operative interference, until the case is fully understood by both parties.

Rule regulating a resort to physical exploration.

This plan is as appropriate in a case in which the symptoms

are connected with urination, where the quality of the urine is unaltered, as it is in cases of chronic and inveterate uterine disease. For you may be morally certain when you have given cantharis, mercurius, aconite, apis mel., cannabis, hyoscyamus, and kindred remedies, under appropriate indications, and relief has not followed, that the case needs a local examination, and perhaps topical treatment also.

Especially requisite in diseases of the female urethra.

Treatment.—Excision is the remedy. You may seize the growth with a pair of delicate forceps, and snip it off with a pair of sharp scissors, or the bistoury. Or ligation, or astringents and cauterization may answer; but they are more slow and painful. The stump, or point of attachment may be touched with the per-chloride of iron, or with a stick of the nitrate of silver, in case of hæmorrhage. In order to prevent the subsequent growth of the tumor it may be necessary to repeat the application of the caustic after a few days.

Excision.

I have recently treated a case in which I had occasion to modify the usual means of excising these growths surgically, and the success of the experiment encourages me to recommend it to the class. But I will first give you the brief history of the patient's symptoms and sufferings:

A new mode of operating.

Case.—Mrs. ——, aged 30, the mother of three children, the youngest of which was two years old, consulted me for the relief of urinary symptoms from which she said she had been suffering for a twelve month. Her physician had treated her constantly for nine months for uterine prolapsus. She had had applications of some sort made to the womb through a speculum, had worn a pessary, taken sitz baths, and tried electricity, both wet and dry, but without any relief. Local examination, by a direct inspection of the meatus urinarius, revealed a vascular tumor which evidently had blocked the passage and caused all the mischief. The uterus was not displaced, there was no leucorrhœal or menstrual trouble, and in fact no other lesion.

It may seem to you that such a blunder in diagnosis would be inexcusable, but I assure you that the facts are as stated, and that the physician is a neighbor of mine who will feel very badly over it, if he ever learns how the case has turned out. My mode of operating was to seize the growth slowly but firmly with this pair of Pean's artery forceps.

When the blood had been thoroughly pressed out of the growth, a pin was passed behind the forceps transversely and its point cut off. After that, the forceps being still attached, the elastic liga-

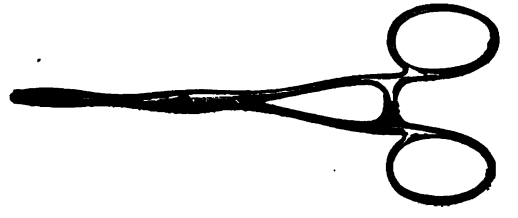


FIG. 48. Péan's artery forceps.

ture was applied beyond the pin, and the forceps removed. The pin kept the ligature just where I wanted it, no blood was lost, and the growth soon sloughed off.

In a few cases, where the growth was so attached upon all sides of the meatus that it would have been very difficult to remove the whole of it without an extensive dissection, I have had good results from the local application of a strong solution of alum in carbolic acid. This does not cause very much pain, is always available, and may be repeated as often as is necessary.

If the tumor is of the nature of the urethral hæmorrhoids, blue, varicose and very vascular, care must be taken in its removal lest the loss of blood be considerable and troublesome. To avoid such a result, a needle may be passed and a ligature tightened so as to include the growth without cutting it off. If the tumor is very large, a needle armed with a double ligature may be passed and the threads tied both ways.

When the tumor is remote from the meatus, or high in the canal, it is a less easy matter to sieze it and to remove it satisfactorily. In this case the easiest method is to sieze it with some form of a polypus forceps or snare, such as are used for removing polypi from the nose or from the ear, and thus remove it.

In case of cancerous growths within and around the meatus, I am satisfied that instrumental interference should be avoided.

The after-treatment consists in keeping her in the horizontal posture for twenty-four hours or more, in order to avoid consecutive inflammation. If there are any signs of urethritis, it should then be treated as if the case was an idiopathic one.

After-treatment.

NON-SPECIFIC URETHRITIS.

Affections of the urinary organs in women are very trying to all concerned, not only because they are often difficult of cure, but also because of the suspicion and the fear on the part of the patient that they may be of a specific nature. It is for this latter reason especially that urethral difficulties are often permitted to continue for months, and perhaps for years, before the physician is consulted. From this delay the complications that ensue may not only undermine the physical health, but possibly the domestic happiness of the patient.

Case. — Mrs. ——, aged 28, has been ill for fourteen weeks. She is the mother of two children, the youngest of which is one year old. The babe was weaned at six months, since which time she has menstruated regularly. On the eve of the regular "period" she was seized with a strong desire to urinate, but, being "down town on a shopping expedition," she could not conveniently respond. Although suffering great pain in consequence, micturition was deferred for more than an hour, during which interval she rode home, a long distance, in the street-car. But the simple evacuation of the bladder did not end her sufferings. For she still felt an almost irresistible call to urination, which has tormented her at intervals of from ten minutes to an hour ever since.

The flow has never been involuntary. If she lies quietly upon her back, the irritation subsides, but the moment she turns upon either side the dysuria comes on again. Although in a less marked degree, standing and sitting produce the same result. She cannot sit in a chair five minutes without the most disagreeable sensations and throbbing, which are referred to the meatus and the course of the urethra. She says the pain is most acute and burning during the flow. This pain is described as always of a burning character. The urine is sometimes cloudy, with a ropy sediment, but usually quite natural in appearance. It has never been bloody or highly discolored. The quantity voided in twenty-four hours is neither excessive nor deficient.

Two years ago she had a similar attack, which continued for three weeks and appeared to subside of itself. Although her attention had not been called to the fact before, she now remembers that it followed a similar imprudence. She is quite positive that it bore no relation to the birth of her first child. This patient has already been under the care of several physicians, at whose prescription she has taken buchu, copaiba, oil of turpentine, and the usual drugs, including the extract of belladonna in large doses.

She has also made use of sitz-baths, suppositories, herb teas, etc., etc., but with only the most temporary relief.

The uterus is prolapsed the moment she assumes the upright position, whether in standing or sitting. With this exception, the womb is normal in every respect. The vagina is not inflamed, neither is it especially sensitive, except along the course of the urethra. Pressure on that canal from above downwards causes the same pain of which she complains when passing water. It also forces the escape of a muco-purulent fluid from the meatus urinarius. The orifice of the urethra is more highly colored and tumefied than the surrounding mucous membrane.

It is a singular fact that most writers upon the diseases of women have said little or nothing of this painful affection. We cannot attribute this oversight to its infrequency, for, in the female subject, urethritis is much more common than stone in the bladder or cystitis, both of which diseases have received a due share of attention at the hands of the gynæcologist. Nor is it an insignificant complaint. For whatever occasions such suffering as our patient has experienced, has a claim upon us for relief.

Urethritis may be acute, sub-acute, or chronic. The two latter are the more frequent. It may arise from taking cold, more especially during the menstrual period, getting the feet and limbs wet, sitting in wet skirts at church, or in the concert room; from the extension of the inflammation in case of vaginitis along the mucous membrane of the urethra, or from the irritation of pruritus in the same canal; vascular tumors of the meatus; polypus of the urethra; from acridity of the urine; the contact of leucorrhœal discharges, or of vitiated semen; from the pressure of a dislocated womb; uterine, ovarian, hernial, or pelvic tumors; cancer; misplaced or ill-adjusted pessaries; horseback riding; mechanical injury during labor, or the induction of abortion by those who are ignorant of anatomy; too forcible or too frequent coitus, especially at the month; also from masturbation, gonorrhœa, syphilitic ulceration, urinary calculus, and indirectly from neglect to respond to the promptings of nature when the bladder should be emptied. A spurious form of this disease is sometimes met with in hysterical women. In the sub-acute variety the attack may recur with each menstrual period.

Causes.

The most prominent symptoms are burning and smarting or

scalding along the course of the urethra, with frequent desire to urinate. In many cases this burning sensation is continuous, being aggravated by the flow of urine. In others it commences when the patient is half, or, perhaps, wholly through with the act of micturition, and continues for some moments after the discharge is completed. The burning and the urging to urinate are increased by motion. Hence, if the patient persists in walking about, or sitting up, these symptoms are aggravated. For this reason, she is generally better at night.

Symptoms.

She may find it possible to lie in a particular position, and in that only, with a relative degree of comfort. Thus, while our patient is easy upon her back, she cannot turn from it upon either side without increasing the difficulty. Sometimes the erect position is intolerable. It is particularly so if the case is complicated with prolapse of the womb, or uterine or other intra-pelvic tumors. The vesical tenesmus is very apt to be increased by the same cause.

Posture chosen.

Usually, the character of the urine is not changed in any particular, except that it is mixed with mucus. The blennorrhagic discharge may be quite profuse or scanty, according to the duration and gravity of the attack. It varies, also, with the individual constitution, scrofulous persons being more apt to have a copious flow of mucus than others. The mucus is mixed with the urine when it is voided, but afterwards separates and settles as a cloudy, ropy material. It is never bloody. In very nervous women, after a paroxysm of strangury, there may occasionally be an abundant flow of pale, limpid urine, such as frequently follows a hysterical fit.

Character of the urine.

When you visit such patients and inquire in general terms concerning their ailments, you will most likely be told that they have disease of the kidneys. For, however intelligent in other matters, most women suppose that anything wrong with urination implies that the kidneys, and not the bladder or urethra, or both, are at fault. A diligent inquiry into the especial symptoms will enable you to discriminate between urethritis and nephritis, for example, and you should not, therefore, be satisfied to prescribe upon the patient's diagnosis.

A domestic fallacy.

Cases of this kind might, perhaps, be confounded with stone in the bladder. The pain at the close of, and after urination, the

increased suffering and strangury from moving around during the day, and the frequent, scanty, interrupted flow of urine, are common to both affections. But where the symptoms depend upon urinary calculus, we shall find them modified and supplemented by others which are lacking in urethritis. The pain caused by the contraction of the bladder upon the stone is sometimes acute, but generally of an aching character. And although it may extend along the course of the urethra, it is not accompanied by the burning sensation of which Mrs. —— complains. In stone, the urine is more or less bloody; its chemical reaction varies with the kind of deposit; the microscope detects an excess of some of its earthy constituents, and by "sounding" the bladder we recognize the presence of a foreign body contained within it.

Diagnosis — from stone.

Cystitis is accompanied by more or less marked constitutional symptoms, as chill, fever, anorexia, and rapid loss of strength. The pain, which is referred to the pubic region, is in the first stage acute, lancinating, and extreme in degree when the bladder begins to contract. It is increased by motion, by pressure, and is worse at night during the febrile exacerbation. It may be of a burning character, but is more apt to implicate the rectum than the urethra. There is also a feeling of distension of the bladder. In advanced stages the abdomen becomes tender and tumefied, and in its further development the affection differs entirely from urethritis.

From cystitis.

It is extremely difficult, and sometimes quite impossible, to determine whether a given case of urethritis is or is not complicated with gonorrhœa. If the inflammation is specific, the attack is more likely to be accompanied by marked constitutional symptoms, by more intense suffering when the urine is passed, by a more copious discharge of mucus, and, what is still more characteristic, the more acute symptoms subside spontaneously in from two to four days. But the particular history of the case, and especially the habits of the patient and of her husband, will help you to settle the question as between a benign and a specific inflammation in the urethra. Let me recommend, however, that, whenever it is possible, you shall give all parties concerned the benefit of a doubt, and proceed to the relief of the symptoms which are actually present.

From gonorrhœa.

Treatment.—Perhaps no better opportunity will offer in which to say a word concerning the length of time required for this and similar diseases to recover under proper treatment. In some of our books and journals you will find it reported that a single dose has cured such a patient almost instantly. The inference is that if we prescribe carefully and accurately, the relief will be certain and speedy. The truth it often quite the reverse. Such a case as this, one in which a poor woman has been ill with marked and decided local inflammation for many weeks, must, in the nature of things, convalesce slowly. And so is it with the majority of diseases that the physician is required to treat.

Rapid cures exceptional.

The ill effects of motion are so manifest in urethritis that the first condition prescribed should be rest in the recumbent position. The patient may be allowed to lie on the back, or upon either side, as she prefers, but should not be permitted to stand, sit, or walk about. Riding would be equally injurious. She should as much as possible refrain from doing anything which would increase the pain or the frequency of urination. For this reason, it is best to prescribe sexual abstinence also.

Rest in the recumbent position.

The diet should consist of plain, wholesome food, which is freed from condiments and easily digested. All kinds of wines and liquors are poisonous. Tea may be allowed in moderation. The meals should be taken regularly. Vegetables are better than meats for these patients. If she eats an excess of sugar her sufferings may be greatly increased in consequence. Diluent drinks, as rice water, gum arabic, an infusion of flaxseed or of slippery elm, may mitigate the suffering by rendering the urine less stimulating and acrid.

The diet and drinks.

If the case is at all obstinate or chronic, a careful examination should be made of the meatus urinarius, the urethra, and adjoining organs. If there is a vascular tumor at the orifice, or a polypus in the canal, remove it by the scissors, ligature, or caustic, as you think best. If the uterus is displaced, correct the deviation and cure the remaining symptoms with appropriate internal remedies. If the inflammation is a sequel of vaginitis, or of pruritus of the vulva, treat it as you would have treated the idiopathic affection. And so likewise if it

General indications.

is incident to leucorrhœa or any form of menstrual derangement.

In gonorrhœal urethritis, especially if there is considerable inflammation and heat in the vagina also, I know of no remedy so well adapted to the relief of acute symptoms as atropine 3. Besides this we have aconite, cantharis, cannabis sativa, and mercurius, which may be given under appropriate indications.

For gonorrhœal urethritis.

Simple, uncomplicated cases may require cantharis, cannabis, conium, belladonna, nux vomica, calcarea carbonica, hepar sulphuris, or mercurius corrosivus. Mrs. —— will take a dose of cantharis 3d once in three hours.

The local treatment is simple, and sometimes very useful. I have many times relieved the suffering and hastened the cure by thoroughly anointing the urethra with cosmoline, or vaseline as a vehicle for hydrastin. To apply it you may wrap a long and slender dressing forcep tightly with cotton, smear it with the cosmoline and, passing it carefully along the urethra allow it to remain there for the space of five or ten minutes.

Local treatment.

Or, medicated injections containing glycerine, warm water, and the same remedy that is being given internally may be applied through such a syringe as this. (Fig. 49.)

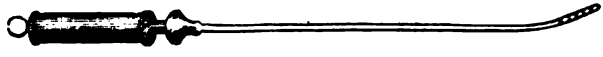


FIG. 49. The uterine and urethral syringe.

In case the attack of urethritis is complicated with inflammation and induration of the cellular tissue about the passage, or if it is gonorrhœal and relapsing, the hot water douche is of exceeding value. Water as hot as the patient can bear it may be thrown through a catheter like this. (Fig. 50.)

The urethral douche.

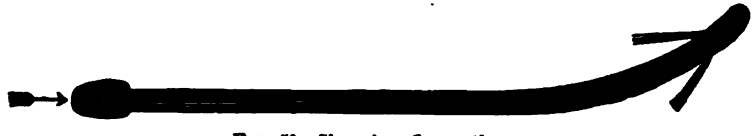


FIG. 50. Skene's reflux catheter.

You should not forget, however, that in the healthy state, or when it is not dilated, the female urethra will not hold more than from eight to twelve drops of liquid at one time.

URETHRAL FEVER, AND FISSURE OF THE URETHRA.

Case.—Mrs. —— aged 33, has never had a child or a miscarriage. One year ago, when living in Michigan, she was ill with bilious fever, which continued four or five weeks. At this time the kidneys were somewhat involved and she began to have nervous chills, which came regularly twice a day for a while, gradually increasing to four or five in number daily. The chills continued in this way some weeks, but since coming to Chicago she finds that they are decreasing in number and severity, so that now she has but two daily, at 10 A. M. and at 3 P. M. Sometimes she can prevent them by moving about. She says she does not feel cold, but there is a chilly trembling sensation all over her body, her eyes run and she feels as if she had taken cold. There is no sweat following the chill, although there is sometimes fever. She sleeps well and is never awakened by a chill. The menses are regular, but of too long duration and are too copious. She has some headache during the chilly stage, and her feet and limbs feel numb. The urine is sometimes scanty and sometimes copious, and the bowels are habitually constipated. She has never had hæmorrhoids, and can lie upon either side. Ignatia 3 four times a day.

Oct. 27. She has had two chills in the forenoon and one in the afternoon, lasting from half an hour to an hour. At the onset her head becomes dizzy, and there is a desire to yawn, and the feet become cold. She says that of late, during the menses she has pain in the back and down the outside of the limbs, and also in the left breast, but none in the pelvis. The eyes are very sensitive to light during the chill, (there is a marked nystagmus.) Gelsemium 3.

Nov. 3. She is not much better and has considerable pain in the region of the sacrum. There is a drawing pain in the muscles of the neck, extending up into the head. Macrotin 3.

Nov. 10. Although the chills still continue she is in some respects better, but there is a feeling of heat on the top of the head and her feet are very cold. Sulphur 30.

Nov. 24. She still has three chills every day. There is no fever, but she feels dull and stupid after the chill. About 3 or 4 A. M. during the past week, she has been awakened with a sensation of coldness between the shoulders, and she cannot get warm. She now tells us that about one year ago she had an attack of inflammation of the urethra, and was ill some time, and she has pain now when passing the urine. Some days she must void it every half hour, and must get up quite often at night to urinate. She has observed that the urine is sometimes clear and again it is clouded. These symptoms are not aggravated at the menstrual period. Thlaspi bursa 3.

Dec. 1. The chills still continue. Straining to urinate, as she sometimes must, will induce one. To-day she has a flushed face and some fever. Her appetite is good, but she has not been able to eat salt food for some time, because it always aggravates the urinary difficulty. She has not been obliged to get up at night as often, but during the day she must urinate four or five times. She has had treatment for urethritis. Thlaspi bursa 3.

Dec. 3. Local examination before the sub-class revealed swelling and tenderness along the course of the urethra. The meatus was protruded, very red, and sensitive. Pressure along the urethra, from the neck of the bladder forward caused considerable pain, but did not bring away any discharge. There was a slight coincident vaginitis.

This affection, which for the lack of a better name is called urethral fever is compounded of a nervous predisposition, a miasmatic exposure or experience, and a local non-specific inflammation of the urethral mucous membrane. It is the outgrowth of a peculiar cachexia, which the experienced gynæcologist should be able to recognize at a glance.

Pathology of.

The case before you illustrates the necessity of a local examination before an accurate diagnosis can be reached, or an intelligent prescription can be made. It also shows that the adaptation of the remedy to the epi-phenomena is not always easy or successful; and that a slight local inflammation which is remotely located may be sufficient to perpetuate some of the symptoms of a miasmatic fever, and finally to develop a cachexia that is almost as enigmatical as hysteria or hypochondria.

In prescribing for urethral fever you should proceed in the same manner as in a case of menorrhagic fever, giving the first, and the most prominent heed to the local symptoms. Some of these cases can be cured by the regular practice of drawing off the urine with the catheter. In others relief will come with allowing a Sims' catheter to remain in situ. When these cannot be borne it may be well to order the warm hip-bath, which can be continued for several minutes and repeated four or five times daily. It is not a bad rule to advise that such a bath shall be taken as often as the chill returns, or in anticipation of it. For this chill is a kind of outlaw, or a spurious affair at the best, and you may sometimes dispose of it by an expedient that will divert the patient's attention. In cases which are complicated

Treatment.

Sitz-baths in.

with pelvic peritonitis the good effects of the sitz-bath will be enhanced by taking a vaginal or a rectal injection of hot water at the same time.

Nor should you forget that the condition of the urine as revealed by chemical examination, and by the microscope, may afford the most important therapeutical indications. In every such case we should look for the presence of mucus, pus, epithelium, blood cells, alkalinity, and the absence of urea, and when either of them is found, be very careful to interpret its clinical meaning correctly.

For the vesical and renal complication.

Cases of urethral fever sometimes depend upon a laceration of the mucous membrane about and within the meatus, which lacerations are likely to develop into linear ulcers that are very painful and difficult of cure. In the puerperal state especially, they may cause a high degree of fever and give you much trouble. Local applications made directly to the wound will give the greatest relief. Nitric acid 2, hydrastis 2, or, if there is suppuration, calendula, may be mixed with glycerine and used in this way. Dr. Shears, our house physician, has recently cured a very interesting case by the application of the oleaginous collodion. When this lesion has become chronic, the best thing to do is to resort to the local application of iodoform (which, when mixed in equal parts with the oil of sweet almonds, has no bad odor). This can be used in emulsion with the oil, or by means of a slender gelatinous suppository, which can be passed into the urethra and allowed to dissolve. (Fig 51.)

For lacerations of the urethra.

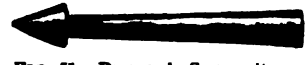


FIG. 51. Duncan's Suppository.

I have given you the details of this case until the present, just as they were recorded by Mr. Dow, our clinical clerk, and they will serve to show you that one of your teachers at least, cannot treat these cases properly without a little time and thought, and without an analysis of the symptoms and conditions that are presented. This patient should have had mercurius corrosivus 6, a month ago.

LECTURE XXXV.

CYSTOCELE.—HERNIA OF THE BLADDER.—VAGINAL CYSTOCELE. VESICOCELE.

Cystocele. Symptoms. *Case.*—Varieties of; treatment, mechanical, and surgical. On dilatation as a means of diagnosis in diseases of the bladder and of the urethra. Vesical inspection and palpation. The catheterization of the ureters. Hysterical ischuria. *Case.*

Case.—Mrs. H., aged 39, married, is the mother of two children, the eldest of which is five and the youngest is three years. About six months ago she began to have a discharge from the vagina, with severe bearing down pains. At first she thought she had falling of the womb, but now she thinks the bladder comes down, because when the swelling is the largest so as to protrude a little from the vulva, she has to push it back before she can urinate. There is considerable soreness of the parts, and not much pain on urinating, but the urine contains a considerable quantity of red sand and mucous sediment. The menses are regular, but just before the period there is increased inflammation and tenderness about the bladder especially. When the tumor protrudes it obstructs the vagina so that it is possible only to pass the nozzle of the syringe, the tumor is very sensitive, and the pain does not cease upon lying down, its protrusion is produced by over exertion, after which it remains for two or three days and then may disappear of itself. She is very nervous and restless, and does not sleep well.

Dec. 3. A local examination in the presence of the sub-class showed vaginitis with swelling and deformity of the urethra. The parts are very sensitive. A female catheter was introduced and its point passed downward toward the hollow of the sacrum. The touch showed that the bladder and the uterus were both prolapsed. On lifting the bladder to its normal position the catheter pointed in the right direction, behind the symphysis pubis.

There are three cases of vaginal cystocele now in our clinic, which shows that the affection is not a very rare one. This is not a very bad case, but in most respects it is typical. It shows the union of prolapse of the bladder with prolapse of the uterus, and of the vagina. It shows concurrent vaginitis, the inability of the patient to urinate until she has

Symptoms.

reposited the tumor, and the liability of the urine to undergo alkaline decomposition when it is retained in the pouch that is formed by the prolapse of the bladder. It also shows the absolute sign of cystocele as revealed by the passage of the catheter.

There are four varieties of vesical hernia, *viz.*, the inguinal, the crural, the perineal, and the vaginal. The two former occur very rarely, and only in men; the two latter only in women. Perineal cystocele is sometimes contingent upon pregnancy, and disappears after delivery. Boyer ascribes it to the pressure of the uterus and of the fœtus upon one side of the pelvis more than the other.

Varieties of cystocele.

Vaginal cystocele is most common with those who have borne a number of children, but it may happen in young girls, and in those who have been married without becoming mothers. The pathognomonic signs of this affection are the formation of a tumor at the anterior and upper portion of the vulva, which is largest when the patient stands erect; which disappears or is easily reduced when she lies down; which is covered with transverse wrinkles when the bladder is empty, and smooth when it is full, which interferes with urination until it has been reposited, and in which the urine may accumulate until it has become ammoniacal, or even until calculi have been formed therein, and the change in the direction of the urethra, so that when the catheter is passed the axis of the bladder is entirely changed.

Signs of vaginal cystocele.

Whether this form of hernia of the bladder depends upon the prolapse of the uterus and of the vagina, or if it has preceded it, cannot always be known; nor is it of very great practical importance to speculate upon it. It is enough to know that the clinical indications are identical, and that the cure of the case requires that both and all of these parts should be reposited, and kept where they belong.

The treatment is either mechanical or surgical. With a view of supporting these parts, various pessaries have been devised, of which Dr. Skene's is in more general use than any other.

Treatment.

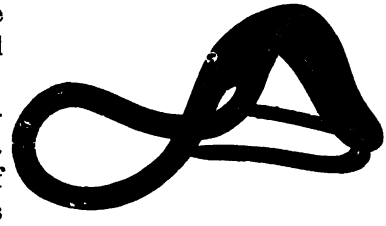


FIG. 52. Skene's pessary for cystocele.

My friend Mr. George E. Halsey, of Halsey Brothers, pharmaceutists in this city, has devised a modification of the Shannon supporter, which is very simple and at the same time very useful in cystocele. If you ever have a case of this kind, I recommend you not to forget this instrument. A lady sixty years of age had had cystocele for twelve years, during which time she had used various expedients to keep the bladder in position. She then began to wear Halsey's pessary for prolapsus of the bladder, and she told me only a few days ago that she has now worn it for two years with entire relief, and I know that she is a truthful witness.

Case.

FIG. 53. Halsey's pessary for cystocele.

In the *American Journal of Obstetrics* for July, 1880, you will find an illustrated description of Gehrung's ante-version pessary as adapted to the treatment of cystocele and procidentia uteri. The paper gives the details of eight cases of cystocele that have been cured by it in the hands of different physicians. Here is the instrument, which requires to be introduced with about the same manipulation as a Hodges pessary.

Various surgical operations have been practised for the radical cure of vesicocele which, *en passant*, are equally applicable in rectocele. Huguier's method consisted in dilating the urethra with the sponge-tent, so as to permit the introduction of the index finger of the left hand into the bladder. The anterior wall of the vagina was then seized with the Museux forceps and dragged down

Operations for cystocele and rectocele.

FIG. 54. Gehrung's anteversion pessary.

wards and forwards so as to separate it as far as possible from the corresponding walls of the bladder, after which several long pins were passed so as to cross each other beneath the vaginal fold, and through the cellular tissue which separates the vaginal and vesical walls. Care was taken not to pierce the bladder, by means of the finger which was retained within it, after which a wire loop was thrown about and below the pins, and the vaginal fold was tightened. The final step consisted in applying the ecraseur so as to remove the redundent tissue. The same operation, but with the finger in the rectum as a guide for the pins, was made for rectocele.

Huguier's operation.

Jobert (de Lamballe) removed several longitudinal bands of the mucous membrane from the anterior wall of the vagina and stitched the incisions together, taking the precaution to leave a flexible catheter in situ in order to prevent the contractions of the bladder while the healing process was going on.

Jobert's operation.

Vidal (de Cassis) advised to form a cicatrix by means of applying a number of serra-fines, which may be allowed to remain until the parts of the vaginal mucous membrane included have sloughed away.

Vidal's operation.

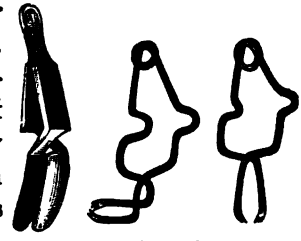


FIG. 55 Serre-fines.

The operation which I prefer, both for cystocele and rectocele, is that first practised by Professor Stoltz, of Nancy, France. Here is a diagram which will give you a better idea of it than a mere verbal description. Fig. 56.

Stoltz's operation.

Colporrhaphy, or elytrorrhaphy, is an operation designed to narrow the vagina so as to prevent the prolapse of the bladder, the uterus or the rectum, or of all of these organs at the same time. Of the various methods designed for the cure of cystocele, that of Stoltz is the best. It consists in denuding the vaginal surface of the tumor in a circular form and in passing the suture along the margin of the wound, so that it may be closed like a big hole in a stocking.

Colporrhaphy for cystocele.

The patient is placed in the lithotomy position, and the paring must be done very cautiously lest the bladder be injured; and for the same reason the needle must not be passed too deeply into the

tissues. The suture is run in as a seamstress "gathers" the linen on her needle. It should be of strong, but fine and pure silk that has been carbolized or of the colored silk-worm gut. The most important part of the after treatment is to prevent such an accumulation of urine as would have a mischievous effect upon the proper healing of the wound. After the second day vaginal injections of calendula, glycerine and warm water may be given once or twice a day. The suture may be removed at the eighth or ninth day.

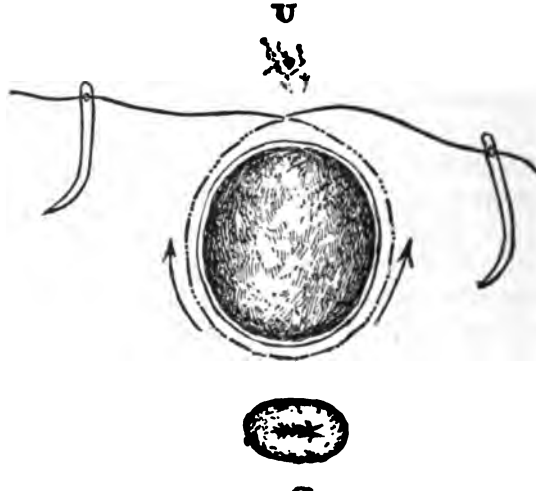


FIG. 56. Stolz's Method.

Colporrhaphy for rectocele.

Most cases of rectocele are accompanied by perineal laceration, and can be disposed of by the operation of colpo-perineorrhaphy. This result is secured by carrying the line of freshening well up over the summit, and by passing the suture so as to draw that summit into the perineal wound, which will shorten the posterior vaginal wall, make the perineum firm, and furnish a means of support for the prolapsed or retro-verted uterus.

If, however, the rectocele is a large one, forming a tumor that is forced out of the vulva, two operations will be necessary. First, a colporrhaphy should be made in order to dispose of the redundant vaginal tissue, and to narrow that passage; and afterwards, if there are no reasons to the contrary, it may be followed by perineorrhaphy. The operation is similar to the one just described, except that the form of the freshened surface may vary according to circumstances, and that the sutures may be crossed transversely.

Because of the strain upon the wound and the probability that the sutures will need to be left in place for a fortnight or more, they should be of silver wire.

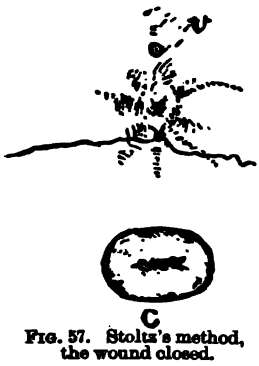


FIG. 57. Stoltz's method, the wound closed.

Case.—Mrs. ——, aged 62, was sent to the hospital by Dr. Thomas Gillespie, of Kenosha, Wis., for relief from what proved to be a rectocele. The tumor was as big as a very large orange, and protruded from the vulva. She had suffered from carrying it for about twelve years, and always supposed that it was the uterus. The operation was made before the class and consisted in freshning a large oval surface on the vaginal side, and carefully closing the wound with silver sutures, of which there were twenty in all. The bowels were kept soluble; the wound was washed, after the second day, with a mixture of calendula, glycerine and warm water and the diet was restricted to fluids and light soups. At the end of three weeks ten of the sutures were removed, at the end of four weeks, the last ten were carefully taken. The result was perfect in every particular; the tumor had disappeared, the cicatrix had healed completely, and the bowels were regular and moved without pain or soreness of any kind.

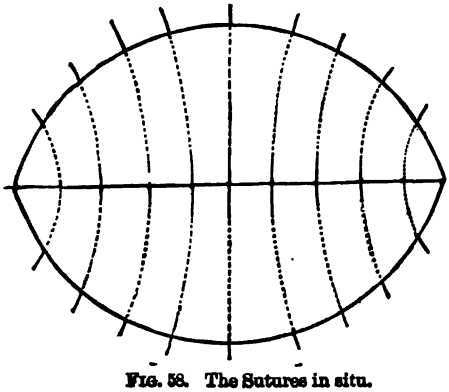


FIG. 58. The Sutures in situ.

I am satisfied that a very important step of this operation is to carry the sutures across the freshened surface of the wound, so that they shall always be exposed at the mesian line, a precaution which brings the two flat surfaces together when the wound is closed, and which prevents an undue strain upon the edges of the wound. Fig. 58

ON DILATATION OF THE URETHRA AS A MEANS OF DIAGNOSIS IN DISEASES OF THE BLADDER AND URETHRA IN WOMEN.

Some of you are already familiar with the fact that the female urethra may be so dilated as to admit of the introduction of the index finger. You have seen me perform this operation by means of the dressing forceps, Atlee's uterine dilator, and the sponge-

tent. Of late this expedient has been quite frequently resorted to for the removal of stone from the bladder without cutting.

A new use for the sponge-tent.

Here is a sponge-tent that I wish you to examine carefully. Ten minutes ago it was removed from the urethra of one of my lady patients, and it presents some appearances which it is quite probable you have never before observed. Its base is as large as a silver dollar. It is of unusual length, and is composed of the best sponge. Excepting only at its smaller extremity, it is as clean as if it had just been washed. There is not a shred of mucus or a drop of blood upon it anywhere else. At its tip, however, you will see a quantity of pus which is slightly streaked with blood.

Case.

My patient has been ill for some weeks with a violent, non-specific urethritis. Under the appropriate treatment, which I have already detailed to you the inflammation of the urethra was entirely cured. But there remained a frequent desire to urinate, inability to retain the urine for more than an hour at a time (unless she was riding in her carriage), an occasional deposit of a creamy-looking matter in the bottom of the vessel, and more or less of vesical tenesmus. Some of the symptoms resembling those of stone in the bladder, and all of them failing to respond to the usual remedies, I determined to dilate the urethra for the purpose of further exploration. This was first done by means of the instruments named, and afterwards by the introduction of a series of long sponge-tents at intervals of three days. Each time that I have removed the tent it has presented the appearance so well shown in this specimen.

The use of the tent in this case enables me to locate the seat of the ulceration very definitely. I know by the appearance of the sponge that the urethra is in a healthy state, and that the pus which has been discharged with the urine came from some portion of the bladder. Having stretched the vesical sphincter with the dilator, so that the urine escaped freely, and afterwards introduced the tent to the same distance, by actual measurement, I am confident that its tip was applied to and within the neck of the bladder. The thick, creamy pus, which has been brought away by the sponge, was not sufficiently fluid to have run down from the cavity of the bladder, but was evidently taken up by it directly from the diseased surface at its neck. The distal extremity of

this sponge looks exactly as if it had been applied to a suppurating ulcer on the integument.

I am, therefore, justified in feeling as confident in the diagnosis of ulceration of the neck of the bladder in this case, as if I had seen the ulcer. Indeed this means of exploration has certain advantages over the endoscope as applied to diseases of the urinary passages in the female subject. It is more simple and available. It does not require an especial and expensive instrument. It furnishes a sample of the discharge, and dilates the urethra so as greatly to facilitate the local application of remedies, if it shall be deemed desirable.

There is no harm in dilating the female urethra quite rapidly. For this reason, and because it lessens the duration of suffering,

Mode of applying.

we choose a freshly-made tent, one that will soften and expand very readily. The patient should be placed upon the back, with the hips brought to the edge of the bed. The feet may be put each in a chair at the side of the bed, as if you were intending to apply the obstetric forceps. Then take Atlee's uterine dilator, or the long dressing forceps, have them well oiled, or anointed with glycerine, or with soap from the dressing-table, introduce them carefully into the urethra, and separate the blades so as to stretch the passage from right to left, and from above downwards. Upon the removal of the instrument the tent can be pushed in carefully and steadily, until it has reached the neck of the bladder. Hold it there for a few moments until it begins to soften, else, being pointed and somewhat conoidal, it may be forced out by a sort of peristaltic spasm of the adjacent muscles. You may leave it within the urethra for from half an hour to one or two hours, but not longer. For it will soften and dilate much more rapidly than if it were in the canal of the uterine cervix; and besides, an early removal will give you a better idea of the condition of the neck of the bladder than if it were allowed to remain for any considerable time. It need not be carbolized.

If the passage is very narrow, or has been inflamed, it is better to begin with a small-sized tent, and afterwards to use larger ones. The sponge is certainly preferable to the sea-tangle, or slippery elm and other material, because it is less hard and irritating when first introduced, and because it does not need to be

retained so long in the urethra. The bladder should be emptied before beginning the operation.

The tent in urethritis.

I have used the tent also in very obstinate inflammation of the urethra, and have thus been enabled to recognize, locate, and treat, an ulceration of its mucous membrane much more directly and successfully than I could otherwise have done. The topical employment of remedies to the inflamed urethra might easily be secured by means of medicated tents and bougies.

A practical hint.

In dilating the urethra for the purpose of bringing medicated substances and injections in contact with the neck of the bladder, and with the upper portion of that canal, it is best to stretch it only at its inner extremity, by means of one of the instruments named. This leaves it funnel-shaped, and, while the patient lies upon her back with the hips raised, secures the retention and contact of the substances injected. An ordinary hard-rubber intra-uterine syringe will answer a better purpose than a more complicated one for throwing these injections into the female urethra, and even into the bladder, when it is necessary. Or you may use a Nott's hard rubber syringe, with the straight pipe, being careful not to apply too much force.

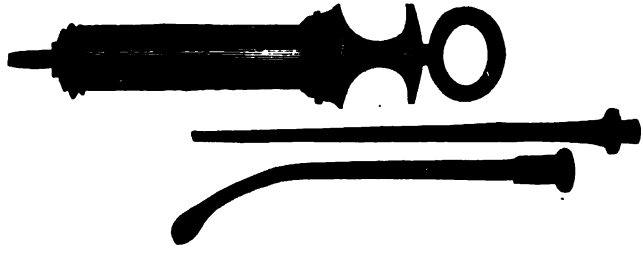


FIG. 59. Nott's hard rubber syringe.

Vesical Inspection and Palpation.—Dilatation of the urethra has also been practised for the purpose of examining the interior of the bladder by the eye and the touch. The late Dr. Gustav Simon devised vesical speculæ, of various sizes, the largest being about an inch in diameter, which could be passed through the urethra so as to expose the lining membrane of the bladder. The patient being anæsthetized, a small incision is made on either side of the meatus, the urethra is stretched as already described, and

the speculum is passed slowly and carefully. Only five to ten minutes are required to dilate the urethra in this way.

A better instrument, however, is Dr. Skenes', endoscope, which can be applied more easily, which you can find in the instrument shops, and which can be used with the sunlight or with a strong artificial light by the aid of a concave mirror.

FIG. 60. Skene's urethral endoscope.

Object of intra-vesical inspection.

The practical value of this inspection of the interior of the bladder, realized in certain cases of cystitis, of chronic ulceration, and of foreign growths within the organ.

For visual inspection of the urethra only, you may use a cylindrical speculum like this. (Fig. 61); or, if you want to look just within the meatus, a common ear-speculum will sometimes answer the purpose.

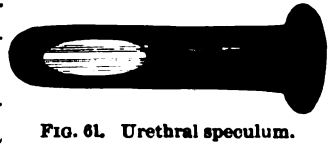


FIG. 61. Urethral speculum.

Vesical palpation is not difficult especially after dilatation of the urethra with the endoscope, or such an instrument as Hunter's uterine dilator.

When passing the index finger into the urethra, the second finger should also pass along the vagina so as to include the vesico-vaginal septum between them. The object of the touch as applied to the inner surface of the bladder is to recognize the hypertrophy of the organ in chronic cystitis, the presence of vegetative growths and

Object of intra-vesical palpation.

of foreign bodies within it, for the diagnosis of defects in the vesico-vaginal septum when the vagina is closed, and for the detec-

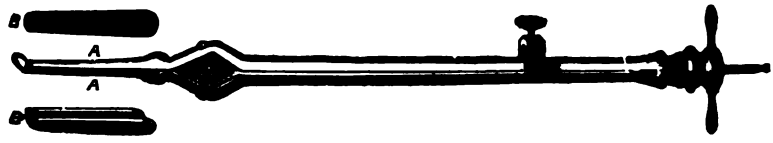


FIG. 62. Hunter's uterine dilator.

tion of fissures at the neck of the bladder and in the urethra. It is also employed in the vesico-uterine touch of Noeggerath* and for

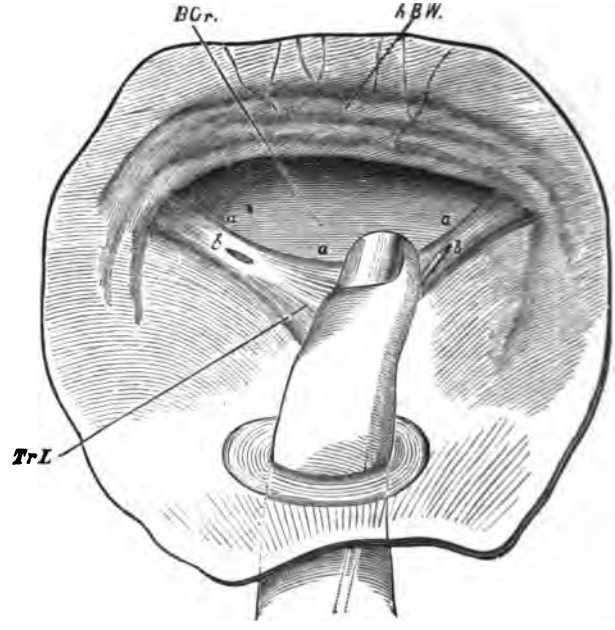


FIG. 63. *h BW.*, Posterior wall of bladder; *B Gr.*, Fundus; *Tr. L*, Trigonum Lieutaudii: *bb*, Opening of the ureters; *aaa*, Ligamentum interuretericum. (The distance between the vesical opening of the urethra and the ligamentum interuretericum is too great as here represented.)

the detection of the probe in catheterization of the ureters. Here is a diagram that will give you an idea of Simons' method of sounding the ureter, by passing the instrument along the finger to and within the orifice of that tube.

Concerning the danger of digital palpation, and dilatation of these parts, Dr. Simon says:

*See Page 83.

"Within two years and a half, the time I have been practising digital palpation of the bladder, over sixty cases came under observation in the Heidelberg clinique. Generally, palpation was carried out by us repeatedly in one sitting and by several of our medical brethren, who happened to be in our clinique at the time, yet, as I stated above, no serious consequence was ever witnessed. By so great a number of palpations of the bladder, every scruple which might have been brought forward against it ought now to be put aside, and this method of exploration, which was formerly only permitted in some rare cases and by specialists, should become the common property of every medical man."

A clinical caution.

In my judgment, and as the result of experience, this statement needs to be qualified. For it is possible to expand the urethra to such a degree as to rupture its walls; and Emmet and others have known dilatation to be followed by incontinence. It is always important to remember that the calibre of this canal may vary in different persons, at different ages, and under diseased conditions. My own experience leads me to conclude that the touch is of more value than the sight, in intra-vesical diagnosis.

When I come to speak of cystitis, the question of forming an artificial fistula between the bladder and the vagina (kolpocystotomy) for the purpose of diagnosis and for drainage will be considered.

HYSTERICAL ISCHURIA.

Varieties of ischuria.

I shall not detain you with any extended remarks upon the subject of retention and suppression of the urine. There are several varieties of ischuria which take their name from the local seat and cause of the disorder. Thus we have the *calculous* ischuria, in which the disorder depends upon the presence of stone, either in the pelvis of the kidney, the ureter, the bladder, or the urethra; and the *renal*, the *vesical*, the *ureteric*, and the *urethral*, which are due to disease or obstruction in either of the parts just mentioned. All of these affections are as likely to occur in women as in men.

Why it may be hysterical.

But there is one form of ischuria, or of anuria, which is almost entirely limited to women, and which is known as the hysterical ischuria. There are two reasons why this affection is called hysterical (1), because

it occurs in hysterical subjects, and is, therefore, of a nervous origin; and (2) because it may attach itself to local lesions, more especially of the genito-urinary system, with which it has no necessary connection.

Among nervous women it is not rare to meet with cases in which, apart from such mechanical causes as uterine displacement, sub-involution, pelvic tumors, and the like, there is a great deal of disturbance of the renal function. There may be a degree of suppression, with scanty urination, or perhaps, under strong mental excitement, a total arrest of the function. You would be surprised to hear a patient say that she had not passed a drop of water for two, three, or four days and nights; and possibly alarmed, if on percussion in the region of the bladder, you should fail to find any evidence of its distention, or on passing the catheter, you could not obtain more than a spoonful or two of urine.

In this connection your knowledge of physiology will serve you a good purpose. You know that a sudden and complete arrest of the secretion of urine is a much more serious affair, than its gradual and partial suppression. And you also know that in the latter case there may be an elimination of urea and other urinary elements from the gastro-enteric mucous membrane, which is compensatory. This explains the intractable vomiting or the diarrhœa which so often accompany hysterical ischuria. The fact that, in this affection, urea has been found in the matters vomited, and its proportion actually weighed from day to day, shows the clinical and necessary connection between them.

Physiological complications in.

There is an essential difference between this form of ischuria and the suppression, with uræmia, which is incident to malignant jaundice; between it and the uræmia with sepsis in certain puerperal cases; and between it and the urinæmia that is incident to ulceration of the bladder.

In simple cases of hysterical retention of the urine the attack may be sudden and self-limited. This is the form which often accompanies the hysterical paroxysm, and which usually ends with a copious flow of clear, limpid urine. Such attacks are due to a temporary condition in which the renal sympathies are unhinged, and they subside when the cause is removed; or, if they continue, may be cured

In simple cases is self-limited.

by mental shock, by electricity, and by such traditional remedies and expedients as are useful in other forms of hysteria.

If, however, this affection is associated with the graver forms of paralysis, and of renal or hepatic disease, the case is more serious, and we shall need to qualify our prognosis. But, even in this secondary form the ischuria may sometimes be relieved by a few inhalations of chloroform, or of ether, by the passage of the catheter, as was advised by Dr. Wm. Hunter; or by a peremptory refusal to use that instrument any longer, as in the following case, for the notes of which, I am indebted to our house physician, Dr. G. F. Shears:

The secondary form of.

Case.—Miss A., aged 21 years, of a very nervous temperament was suffering with Bright's disease and from very painful menstruation. The act of urination was quite painful and often performed with difficulty. During one of my visits, the patient complained of great fullness in the bladder and of inability to pass the urine, although several efforts had been made. I used the catheter and left orders to be called if the urine was not passed in five or six hours. Promptly at the expiration of the six hours I was informed that she was in great pain and still unable to urinate. The catheter was again used, being passed with difficulty on account of the sensitive condition of the parts.

Every remedy which seemed appropriate to this condition was tried, but without avail. The catheter was the only real means of relief, and, although its passage caused the most exquisite pain the patient begged for its use and it was applied four times a day for ten days before I determined that there was no real need of it. For some days my suspicions had been aroused as I noticed the varying character of the urine which was sometimes dark and scanty, sometimes nearly normal in appearance, and again as clear as the clearest spring water. Still I hesitated to act upon my suspicions. There was certainly a lesion of the urinary apparatus and it appeared incredible that anyone would undergo the pain the patient seemed to suffer during the introduction of the instrument unless it was to relieve greater pain.

At length being firmly impressed with the idea that the demand was hysterical, I determined to no longer use the catheter. At my next visit I succeeded in making the patient feel that the use of the catheter was very disagreeable to me, and that I considered it entirely unnecessary. These insinuations immediately brought tears and protestations against the injustice of my decision. I however persisted in my idea, and told her that whatever it had done in the past it would not be necessary to use it again. My words were prophetic, for although the case remained in my hands some

four months longer, during which time the same symptoms were often present, the catheter was never again necessary.

Internal remedies.

You are not to suppose that all of these cases are to be cured so promptly by the same, or by any other means. The best effects are often derived from fitly-chosen remedies, among which are apis mel., merc. cor., causticum, belladonna, hyoscyamus, and nux vomica. The most important clinical indications for these remedies will generally be found in the lesions of function or of structure upon which the ischuria is engratted; and you will therefore give due prominence to the coincident symptoms of cystitis, urethritis, nephritis. Bright's disease, and especially of neuralgia, hysteria, and spinal irritation.

LECTURE XXXVI.

CYSTITIS.

Cystitis. Causes. Symptoms. Diagnosis. Prognosis. Treatment, local, general, surgical, and dietetic,—washing out the bladder,—remedies for,—cystotomy, mode of performing, the after-treatment. Objections to, results of, the artificial eversion of the bladder, drainage.—the milk diet in,—the Clysmic spring water in. The irritable bladder. *Cave.*—causes of, hysteria as a factor in, three points in the diagnosis of, treatment.—Stone in the bladder—diagnosis and treatment of.

While all of the tissues of the female bladder may be the seat of inflammation, the mucous membrane is more prone to it than any other. It is the sub-acute and chronic forms of mucous cystitis which are commonly known as catarrh of the bladder. Acute cystitis is rarely an idiopathic affection; and we do not very often meet with it unless in the puerperal state.

Causes.—Cystitis may arise from exposure to cold and wet; from a direct extension of vaginitis and urethritis to the bladder; from diptheritis, from an excess of local treatment in uterine and urinary affections; from over-distention of the bladder; from the sudden arrest of leucorrhœal and gonorrhœal discharges; from prolonged retention and decomposition of the urine; from falls and blows upon the pelvic region, and from the traumatism of natural or instrumental delivery; from the presence and pressure of abdominal tumors, or of the displaced uterus; from foreign bodies that have been introduced into the bladder; from stone in the bladder, from polypus of the urethra, or from urethral calculus, carcinoma, or from hæmorrhoids, as well as from ulcers, fissures, and foreign bodies in the rectum.

Symptoms.—The symptoms which are most prominent, and which are always present in this disease, whatever its form or variety, are pain in the region of the bladder, vesical tenesmus, or strangury, and a frequent desire to urinate. The degree of the suffering varies with the acuteness and the severity of the attack. Most patients complain sorely of a feeling as if the bladder had not been quite emptied, and that they must continue to strain to accomplish it. They may even sit upon the vessel hours at a time.

In the milder and more chronic cases the pain and tenesmus are very much aggravated by standing, riding, or walking about; while sitting or lying down may afford comparative ease. If, however, the constitutional symptoms are very marked, there may be a nightly aggravation which interferes with rest in the recumbent posture.

The urine is hot and highly colored, and in a little while becomes alkaline in its reaction. At first it is cloudy, but soon contains mucus and blood; then it becomes more thick and glairy, and finally deposits a viscid, ropy, or purulent sediment. Its passage is often accompanied by pains which radiate along the ureters towards the kidneys, along the urethra down the lower extremities, toward the spine, the sacrum, or the perineum. If there is any considerable uterine disease or deviation, all the symptoms will be worse during the menstrual period.

In chronic cases especially, the constitutional symptoms are such as indicate impoverishment of the blood from anæmia, and poison-

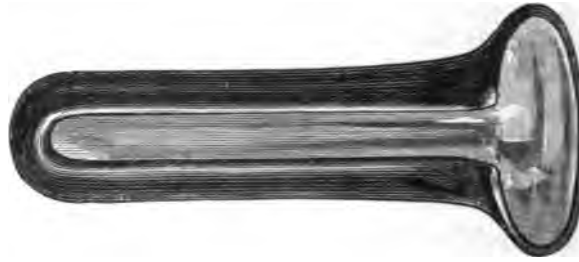


FIG. 64. Ashton's fenestrated speculum.

ing of it by the absorption of the urine, or of some of its elements from the ulcerated surface of the bladder. Urinæmia from this cause may be rapidly fatal, and is always accompanied by violent fever, vomiting, prostration, and collapse.

Diagnosis.—Here, as elsewhere in the case of women, you should not depend exclusively upon the subjective signs in making the diagnosis. The symptoms I have just indicated are good enough so far as they go, but they are not sufficient. Nor will the chemical reaction of the urine, or its microscopical examination settle the question, for these modes of enquiry are better suited to the diagnosis of renal than of vesical disorders.

It is as impossible to make a careful and reliable diagnosis of

cystitis in women, without a physical examination by palpation, percussion, by the touch through the finger and the sound, as well as by the speculum, as it is in uterine disorders. And these means of differentiation are to be applied to the bladder in the same way that we apply them to the uterus and its appendages. The best speculum is Skene's endoscope (Fig. 60) although the local examination of the meatus (Fig. 64) and the urethra from the vaginal side may sometimes be advantageously made by an instrument like this, which is Ashton's fenestrated anal speculum. (See page 576.)

I have sometimes used an intra-uterine speculum for the purpose of dilating the urethra and of inspecting its inner surface.

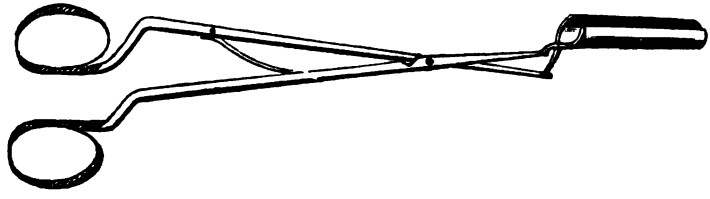


FIG. 65. Intra-uterine speculum.

The use of the speculum or endoscope in these cases is sometimes very important, for it may happen that an intractable cystitis shall depend upon a fissure at the neck of the bladder, which could not be recognized except by actual visual inspection.

Prognosis.—The prognosis depends upon the patient's general constitution, the curability of the complicating disorders, the gravity of the toxical symptoms, and the kind and duration of the treatment to which the patient has already been subjected.

Treatment.—The treatment is local, general, surgical and dietetic. In the acute form, local applications of hot water by means of compresses to the pubic region, poultices of flax-seed or of oat-meal, or warm sitz-baths are of the greatest service. Sometimes the hot-water irrigation of the vagina will mitigate the suffering and relieve the congestion. If the case is complicated with prolapse of the bladder, with dysmenorrhœa, or with pelvic congestion from any cause, the patient should be advised to lie with the hips elevated, and the shoulders depressed. In cystocele with cystitis, the bladder should be reposited and kept in place in order to prevent the decomposition of the urine. In case of stone, the foreign body should be removed.

The local treatment.

In chronic cases with copious discharges of mucus and pus, great relief may be obtained and a source of infection removed, by washing out the bladder once or twice daily with warm water. This may be done by means of a closely fitting syringe and a double-

Washing out the bladder.

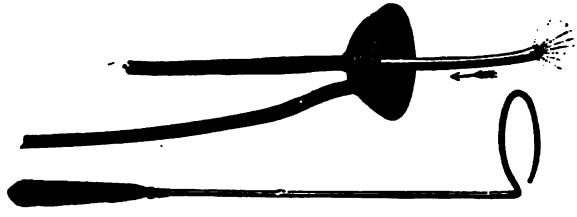


FIG. 66. Burns' reflux catheter and adjuster.

current catheter, of which there are several on my desk. (See Figs. 66 and 67).

A more convenient instrument for flushing the bladder, and for

FIG. 67. Nott's double-current catheter.

medicating its inner surface afterwards, is such an one as this, which was designed for intra-uterine purposes.

FIG. 68. Molesworth's double canula and bulb syringe.

Having cleansed the bladder it becomes a question whether you should medicate it topically. In cases with ulceration and the free secretion of a muco-purulent fluid, with the urine, I have certainly had good effects from the local use of calendula. In rheumatic and hæmorrhoidal subjects you may substitute the hamamelis for calendula; while, if the trouble is of traumatic origin, arnica is

Topical medication of the bladder.

best. In all cases, however, only a few drops of the strong tincture should be added to the injection.

The internal or general treatment, is sometimes very difficult and tedious. In the acute form, cantharis is more appropriate than any other single remedy. It is adapted to burning and tenesmus with violent pains in the bladder, the passage of scalding urine which issues drop by drop and is scanty, turbid, and sanguineous. When these symptoms are accompanied by prolapse of the uterus and of the rectum, with pains along the ureters and in the kidneys, with aggravation upon standing and relief from sitting, its effect is sometimes very prompt. The indication for cantharis is strengthened if the attack is due to a translation of gonorrhœal vaginitis or urethritis. And so likewise of sub-acute cystitis which has resulted in atony of the bladder with retention of urine.

The medical treatment.

Cantharis.

There is another indication for cantharis which it will be worth your while to remember, which is that it is adapted to cystitis occurring in those who are subject to erysipelas, more especially of the face and of the external genitals. It is just as true in the case of vulvar erysipelas, with vesical irritation, occurring in little girls, as it is with women.

Belladonna is called for when the region of the bladder is very sensitive to the touch, with shooting pains in the loins, and paralysis of the neck of the bladder, with involuntary discharges of urine. It is especially adapted to those nervous and delicate subjects who cannot sleep, and who greatly exaggerate their suffering. In very acute cases, and especially if they are of gonorrhœal origin, a few powders of atropine 3, at hourly intervals will bring relief, and, if given early, will abort the attack.

Belladonna.

In chronic cases, cannabis sativa, chimaphilla, mercurius sol., copaiva, terebinth, hydrastis, causticum, pulsatilla, phosphoric acid, conium, dulcamara, lycopodium, kali carb., and sulphur, have their special indications, for which I must refer you to the Materia Medica. There are, however, a few practical clinical indications which you may carry with you.

Other remedies.

Clinical indications.

For *rheumatic cystitis*, aconite.

For *milky urine with a tendency to rapid decomposition*, phosphoric acid.

For *inflammation with paralysis of the bladder*, hyoscyamus, causticum, carbo veg., plumbum, or sulphur.

For *chronic cases complicated with peri-cystitis*, colocynth and terebinth.

For *inflammation of the neck of the bladder especially*, digitalis and elaterium.

For *catarrhal cystitis with a deposit resembling the white of an egg that is slightly cooked*, dulcamara.

For *burning, pressure, and tenesmus*, nux vomica, arsenicum, cantharis, or aconite.

For *intractable tenesmus*, tarentula.

For *sub-acute cases induced by dampness and taking cold*, dulcamara.

For *chronic catarrhal cases, especially in old people*, carbo veg., or cocculus.

For *cystitis arising from cantharides and other drugs*, apis mellifica, or camphora.

Surgical treatment.

The surgical treatment consists in devising a means for the thorough and constant evacuation of the bladder. There are two methods of filling this indication; (1) by the operation of cystotomy, and (2) by drainage through a self-retaining catheter.

Cystotomy.

The operation of cystotomy, or kolpocystotomy, is practiced by opening the *bas-fond* of the bladder and creating a vesico-vaginal fistula, which establishes a continuous drainage of the organ. It consists in passing a grooved staff into the triangular space, the apex of which is at the commencement of the urethra and its base at a line drawn transversely from the orifice of one ureter to the other. While this is held firmly, the perineum being retracted with a Sims' speculum, and the patient anæsthetized, an incision is made with a bistoury along the median line and in the groove of the staff. The edges of the wound are then seized with the forceps, everted, and about one-fourth of an inch of tissue on either side is snipped off with the scissors. The hæmorrhage, which is not troublesome, if we have kept to the median line, may be controlled by torsion, by Pean's forceps, or by serre-fines.

In lieu of the incision, Dr. Pallen has proposed to make the opening with the thermo-cautery, which obviates the risk of venous hæmorrhage, and prevents the premature contraction and closure of the fistula.

The after-treatment.

The subsequent local treatment consists in washing out the bladder daily, and thoroughly, with starchy and demulcent fluids, such as flax-seed water, etc. When the cystitis is cured, the artificial opening may be closed as in ordinary cases of vesico-vaginal fistula.

Objections to vaginal cystotomy.

The chief objections to this vesico-vaginal section are that the operation is not devoid of danger from consecutive cellulitis, for although in most cases at the point of the incision there is no cellular tissue between the vesical and the vaginal wall, still it may happen that there shall be, and that this tissue will become infiltrated and inflamed in consequence of the wound, whether it is made by the knife or the cautery; that the relief from the pain of cystitis is substituted by a distressing infirmity which involves constant dribbling and escape of the urine as fast as it is poured into the bladder, and that the proportion of radical cures of cystitis in this way does not warrant a frequent resort to it. At the Woman's Hospital of New York, where the best operators, skilled nurses, and constant care were had, the following results were obtained: Cystotomy was performed for the relief of cystitis in seventeen cases, of which four were cured, and thirteen improved."*

Results of.

Simon practised a modification of vaginal cystotomy which was designed to invert the bladder and so to expose its internal surface that its lesions could be observed, and that tumors which were beyond reach through the urethra could be easily removed. This plan consisted in making a T-shaped incision through the anterior vaginal wall, after which, and by means of tenaculæ, the bladder could be turned inside out. The tumor being removed, and the exploration finished, the wound could be readily sewed up again.

The artificial eversion of the bladder.

Where cases resist the ordinary treatment, or in conjunction with it, some sort of self-retaining catheter may be applied for

*Diseases of the bladder and urethra in women, by Alex. J. C. Skene, M. D., etc., 1878, page 205.

the purpose of keeping up a constant drainage of the inflamed organ. A bit of rubber tubing may be passed so as to coil itself and be retained within the bladder, which, when it chokes with mucus can be cleansed by a syringe; or Holt's or Skene's self-retaining catheter may be left in situ for the same purpose.

Drainage by the catheter.

FIG. 69. Skene's self-retaining catheter.

But you should not forget that, although the urine has free exit through the catheter, the bladder may be partly filled meanwhile. So that, as Dr. Matthews Duncan says, "in order to insure that the evacuation is complete, you have to squeeze it out through the catheter, as the sportsman does with rabbits he has shot."

There is no doubt in my own mind that, in cystitis, the regulation of the patient's diet is quite as important as it is in Bright's disease, or even in diabetes. I could cite several cases in my own experience in which this part of the treatment has done more good than my remedies. I am confident that one of my patients, who had had cystitis for four years, owes her life to the milk diet; and that several others have been promptly and permanently benefitted by it. I began to use it in this class of cases five years ago (1875). and am fully prepared to recommend the plan adopted in England by Dr. George Johnson, who gives the following directions:

The milk diet in cystitis.

"The milk may be taken cold or tepid, and not more than a pint at a time, lest a large mass of curd, difficult of digestion, form and collect in the stomach. Some adults will take as much as a gallon in the twenty-four hours. With some persons the milk is found to agree better after it has been boiled, and then taken either cold or tepid. If the milk be rich in cream, and if the cream disagree causing heartburn, headache, diarrhœa, or the symptoms of dyspepsia, the cream may be partially removed by skimming. Constipation, which is one of the most frequent and troublesome results of an exclusively milk diet, is to some extent obviated by the cream in the unskimmed milk. When the vesical irritation and catarrh have passed away, solid food may be combined with the milk, and a gradual return made to the ordinary diet."

In some cases I have found that skim-milk, butter-milk, or koumyss answer very well.

Another valuable, if not indispensable auxilliary in the treat-

ment of sub-acute and chronic cystitis especially, is the use of appropriate mineral waters, the best of which, I think, is the "Clysmic" spring water. My attention was first called to its value in consequence of its remarkable effect in the cure of one of my best personal friends.

The Clysmic spring water in.

The notes of her case, are as follows:

Case.—Mrs. ——, aged 26, the mother of three children, had suffered for four years from what was diagnosticated to be "catarrh of the bladder," "inflammation of the neck of the bladder," and "the first stage of Bright's disease with malarial fever in its worst form." So many different opinions as to the nature of the disease were given by Drs. Alonzo Clark, George E. Belcher, and several other distinguished and competent physicians of New York City. Both schools of treatment were faithfully and skilfully tried, but without avail. The catheter was used for many weeks; then an injection of morphine, and twice each week an application of iron was made to the interior of the bladder, which was continued for six months. It became impossible for her to walk, for the slightest exertion caused an untold agony with local spasms that required the use of seven grain suppositories of opium before they would yield. The pain that was caused by the desire to urinate was beyond description.

When her weight had been reduced from 172 to 112 pounds, and it seemed impossible that she should recover, a final consultation, of physicians was held and it was decided to wash out the bladder and inject a solution of the nitrate of silver. The prognosis given was that she must die, or be bed-ridden for the balance of her life.

Before beginning the use of the caustic injections she began to drink the "Clysmic" water. In a very little while the painful symptoms subsided, and in a few weeks she had entirely recovered her health. More than two years have now elapsed, and there has been no return of the difficulty.

This kind of spring water seems especially adapted to those cases of urinary disorder in women, which are catarrhal in character, and which are compounded with miasmatic and dyspeptic derangements. For this reason it has a wide range of application in paludal districts, and with those patients who have developed a kind of urinary cachexia, which does not respond to ordinary remedies, and which, except for its use are exceedingly difficult of cure.

THE IRRITABLE BLADDER.

About fifty years ago the celebrated Dr. Robert Gooch first recognized what he afterwards described as the 'irritable uterus.' In our day, with improved methods of physical examination, we identify most of the symptoms of that peculiar affection as belonging in reality to what is called the irritable bladder. Here is a case of this very common and intractable disorder.

Case.—Mrs.——, aged 22, has been married four years, but has had no children and no miscarriages. Her menstruation is normal in the quantity and character of the flow, and also in the regularity of its recurrence; but for a week before her period, and during it until the flow has ceased, she suffers a marked aggravation of her urinary symptoms. These symptoms consist chiefly of a desire to urinate, and of dysuria. She must void her urine at intervals of from ten to thirty minutes; the periods varying with exercise while upon her feet, with the return of the catamenia, with loss of sleep, and with mental worry. The more frequent the discharge the more cloudy the urine. She has been for eleven months past in the care of a gynæcologist of this city who has cauterized the cervix uteri every week.

A local examination revealed a condition of the os and cervix uteri that was normal except for the effects of the cauterization. The sound showed that the uterus was slightly anti-flexed. The bladder, as felt at the anterior cul-de-sac, and by conjoined manipulation was not hypertrophied or especially sensitive. The urethra and the meatus were normal.

A second local examination, which was made two days in advance of the monthly flow, disclosed the same conditions, except that the forward flexure of the uterus was somewhat increased.

The treatment consisted in repositing the uterus, and enjoining a strict monthly quarantine, with rest upon the back, beginning four days before the flow, and continuing until it had ceased. The womb was replaced four times in all by the sound; she took no medicine, and in two months was entirely relieved.

This case illustrates the fact that ante-flexion of the uterus may provoke an irritation of the bladder. Other deviations of the uterus may have the same effect. And so likewise may an excessive use of the speculum, of caustics, or of the catheter, too frequent coitus, prolapse of the vagina, vaginitis, urethretis, nephritis, stone in the bladder, cancer, hæmorrhoids, fissure in ano, a lack of cleanliness, errors in diet, and the abuse of diuretics.

Causes of.

Other causes are oxaluria, or the deposit of the oxalate of lime in the urine; and uric and phosphatic deposits, which earthy matters are direct sources of irritation to the vesical mucous membrane. This affection is very common in gouty subjects.

In a considerable share of cases this disorder is a hysterical neurosis. When it is so there is very likely to be either an incontinence or a retention of the urine at times, and other syptoms of hysteria also will be present. For the irritable bladder is not a disease *per se*, but a symptom, or condition, which must depend either upon a local or a general cause. By exclusion, if you know what these causes are, you will be able to differentiate between them, and to settle upon the proper one.

Hysteria as a factor in.

The healthy bladder is not tender. If, upon passing the vesical sound, and pressing lightly while the instrument is within, much pain is felt, it is a case of inflammation and not one of simple irritation of the organ. If the depth of the bladder, when measured from the meatus to the fundus, is more than five inches, the probabilities are that we have a case of irritable bladder. Moreover, if the bladder is always irritated and excited to contraction by the presence of the urine, whether that fluid is cloudy or limpid, the case is of nervous origin, and the irritability depends upon vesical hyperæsthesia.

Three points in the diagnosis of.

If we know the cause and can unravel the complications, the treatment of the irritable bladder is not difficult. Manifestly no single remedy or expedient is sufficient for all cases. Apis mellifica, mercurius, hyoscyamus, belladonna, lycopodium, ignatia, nux vomica, ferrum, and thlaspi bursa, have each been extolled, and are useful under appropriate indications. When the gouty and lithic acid diatheses are present, lithia carb. is an excellent remedy. For irritating urinary deposits nitric, or the nitro-muriatic acid, with plenty of fresh water, or the "Clysmic" spring water for drink.

Treatment.

STONE IN THE BLADDER AND IN THE URETHRA.

In the treatment of vesical diseases you will often suspect the presence of calculi, and it is therefore important that you should know something of this subject. For, while stone in the blad-

der is much less frequent with women than with men, it is an affection that sometimes gives us a great deal of trouble. The short and dilatable urethra in women not only favors the escape of such small foreign bodies as by incrustation would otherwise become larger and more troublesome, but it also facilitates their surgical removal *per vias naturales*.

Relative frequency of, in women.

In addition to the ordinary causes of stone in the bladder, which are applicable to men and women alike, this affection is rendered more frequent in those women who have undergone the operation for vesico-vaginal fistula, and in those who are suffering from cystocele.

Causes.

The symptoms are those which I have just enumerated when speaking of cystitis, viz.: pain, dysuria, vesical tenesmus, increased upon standing or walking, and the presence in the urine of mucus, pus, and blood, the morbid products varying with the duration and severity of the accompanying inflammation.

Symptoms.

Physical examination by the passage of the sound, by the conjoined use of the sound in the bladder and the finger in the vagina, or by the passage of the index finger directly into the bladder, is not difficult, but is very decisive. The calculus that escapes detection in this way must be encysted, but even in that case it may be found by first distending the bladder with warm water, and then making the examination. In some cases the urethral speculum may be of service by bringing the foreign body directly into view. (Fig. 61.) When the calculus has been forced into the urethra it is readily recognized by the touch, applied to the vaginal surface of that canal, and also by the introduction of the sound. If the calculus has lodged in the ureter, or even in the pelvis of the kidney, its presence may be detected by Simon's method of catheterizing those tubes, as I have already explained. (Fig. 62.)

The prognosis depends upon our ability to remove the foreign body with certainty and safety; upon the curability of the co-existing inflammation and ulceration; and upon the tendency of the disease to relapse.

Prognosis.

The indications for treatment are few and simple. If the calculus is already in the urethra we have only to dilate the passage, to seize the stone with a pair of forceps, to give it a slight rotary

motion, and to extract it. If it is still in the bladder, and we are satisfied that its diameter does not exceed an inch, the urethra should be dilated, and it should be carefully seized with the forceps, so as not to include the vesical wall, and then delivered slowly through that canal.

Treatment.

When the stone is too large to be extracted through the urethra, one of two methods for its removal may be adopted: (1) it may be crushed by the lithotriptor, and the bladder carefully washed of the fragments, or (2) the operation of vaginal cystotomy, which I have already described, and which opens the way for its removal through an incision in the vesico-vaginal septum, may be made. If the first of these is determined upon, care must be taken not to wound the inner surface of the bladder, and not to permit any of the fragments to remain as the nucleus for a new formation; and if the second is necessary, the wound will need to be sewed up, as in vesico-vaginal fistula. The possibility of vaginal cystotomy in women does away with the necessity for the resort to the perineal section, which has been the usual mode of operation in men.

Lithotripsy and vaginal cystotomy.

In case of vesical calculus occurring in a patient with occlusion of the vagina, disease of the uterine cervix, anchorage of the uterus, or intra-pelvic tumors of such a nature as to interfere with a resort to vaginal cystotomy, we should have a resource in supra-pubic lithotomy. This operation which has been so skilfully and successfully practised by my good friend Prof. Helmuth, of New York, * is quite as available in women as in men; but it should be restricted to those cases in which the vaginal incision is impracticable.

Supra-pubic lithotomy.

Sometimes these calculi are voided spontaneously; sometimes their passage may be facilitated by the resort to warm sitz-baths, or by irrigation of the vagina or the rectum with hot water; and sometimes they are forced through the urethra by straining while the patient is in an unnatural position, as in bending very far forward, or while lying down. A little while ago this specimen was given me by a private patient who had passed it voluntarily. Her history is as follows:

Spontaneous discharge of.

Case.—Mrs.——, seventy-three years of age had been subject to

* The American Observer, Nov. 1880, page 532.

attacks of renal colic. They seemed to be induced by fatigue, she had had them for two years, and they were relieved by the usual remedies. In the last but one of these paroxysms, the suffering was located in the left ureter exclusively, and the relief, when it came, was sudden and complete. She then passed five weeks with greater ease and comfort than she had known in the two years. At the end of that time, after several severe fits of straining to urinate, she succeeded in passing this calculus. It is one inch in length, and moulded into the form of a cylinder. Its weight is thirty-six and one-half grains.

SARCOMATOUS GROWTHS WITHIN THE BLADDER.

The occurrence of these and of papillary growths within the bladder are rare. The following is the most remarkable case of the kind that I have seen:

Case.—Mrs. ——, age 37, has for several years suffered from a burning during urination, and a spasm of the neck of the bladder after passing the first few drops of water. The urine is strong with a heavy sediment. A year ago it became bloody and now the loss of blood is sometimes frightful. When the bladder is irrigated small bits of flesh and clots sometimes come away. There is a stinging as of fine needles in the bladder, with a sense of retraction in that organ on drinking cold water. Straining to force the flow of urine fails of effect, but a deep inspiration causes it to flow freely. There is a monthly aggravation with tympanitis and inveterate insomnia.

Failing to detect a stone, and confident of some local cause for the hemorrhage, I dilated the urethra, and, on passing the index finger into the bladder, discovered a growth as large as a lemon. This was removed without accident and was found to be sarcomatous. Seven months later the old symptoms had returned and the bladder was found to be studded with small friable growths which were removed with the curette. In six months more a third crop was taken for the relief of symptoms that were worse in every way. She developed a wretched cachexia, became exhausted and emaciated, and in a few months died.

The use of the curette within the diseased bladder is a dangerous expedient, and, although it is somewhat painful, should be done without an anæsthetic, lest the bladder might be perforated.

LECTURE XXXVII.

UTERINE DEVIATIONS AND DISPLACEMENTS.

Uterine Deviations and Displacements. **General considerations upon. The natural position and mobility of the uterus. The uterine ligaments and the cellular tissue as a means of support. The etiology of uterine displacements. The predisposing, and avoidable causes of. The *intrinsic* and *extrinsic* and the *accidental* ditto. The symptoms of. The diagnosis of. The treatment. The scope and value of internal remedies exclusively—the necessity for reliable indications of all kinds. The cardinal symptoms in the choice of a remedy. *Case.*—The use and abuse of pessaries. Reasons for objections to them. Harmful varieties of. Contra-indications for. Indications for. Not incompatable with our remedies. Abdominal belts and supporters. Arguments pro and con. Dr. Hodge's experience with them.**

No single subject in the realm of gynæcolgy has attracted so much attention as the question of uterine displacements and their relation to uterine pathology. There has been, and still is, a class of physicians who regard disorders of place as the essential and fundamental element in uterine pathology, and who refer all, or nearly all, the diseases of women to this single cause. The great leaders in this party were, the late Dr. Hodge, of Philadelphia, and Dr. Grailly Hewitt, of London. But, as with the theories of so many others, their exclusive views have been modified, and uterine deviations are now taking their proper place among the causes, effects, and complications of pelvic disorders.

General considerations.

Before we proceed to the study of the separate displacements, I must speak of the normal position of the uterus, and of its range of mobility within the limits of health. For, having heard so much of uterine deviations and of their evil consequences, you may have fancied that the uterus is held in a fixed position, like the articulating surfaces of a joint. The fact is that the womb is more movable, and in a healthy way, than any other organ in the body, not even excepting the eye. In a qualified sense it is never at home. In fœtal life and until puberty, it is an abdominal organ; during the menstrual life it belongs within the pelvis; in the early months of pregnancy it lies below the superior strait; in the latter half above it;

Natural position and mobility of the uterus.

Physiological changes in its position.

in puerperality it is first an abdominal, and then pelvic again. These changes of place are physiological and necessary.

But more than this, it is so mobile as to be constantly changing its position, although in a slighter degree. Talking, breathing, swallowing, coughing, sneezing, moving an arm or even a finger, standing, walking, lying down, the effort at stool and at urination, the monthly engorgement of the uterus, and many other such slight causes may move it in different directions and alter its position with reference to the fixed parts of the lower pelvis. So that, there

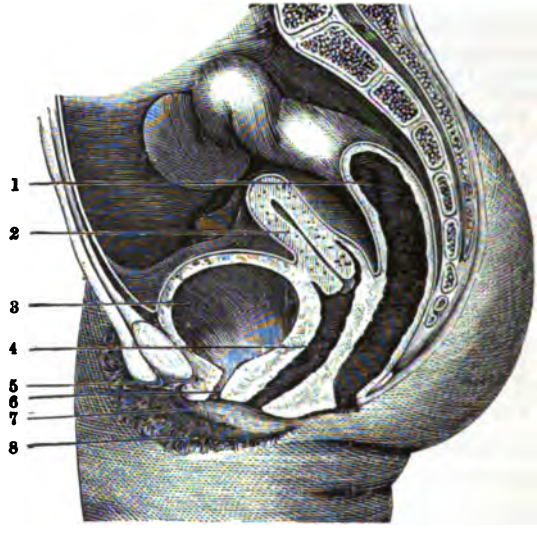


FIG. 70. Normal position of the womb. 1. Rectum. 2. Uterus. 3. Bladder. 4. Vagina.

are slight and self-limited forms of uterine deviation which are of no consequence in a clinical point of view, except in establishing the rule that *uterine displacements are important and mischievous only when they are permanent, and when they create or complicate disease by their effects upon the uterus and upon other organs within the pelvis.*

A clinical rule.

This diagram (Fig. 70) will give you a correct idea of the normal position of the uterus as it lies between the bladder in front and the rectum behind. Observe that even with the bladder distended, its axis inclines forward at an obtuse angle with the axis of the vagina; and that its fundus and body are raised above the bladder in such a way as greatly to be influenced by its varying form. This fact, together with the intimate union existing

between the lower segment of the uterus and that of the bladder, shows why one of these organs cannot be displaced without involving the other.

The uterus is sustained by folds of the peritoneum with interlacing fibres and areolar cellular tissue. The utero-vesical ligaments in front of the womb, the utero-sacral ligaments behind it, and the broad ligaments on either side of it, are the moorings by which it is attached. Below, its only support is derived from the vaginal column, which rests upon the perineum.

The uterine ligaments.

Etiology.—The causes of uterine displacement are predisposing and exciting. Among the former the most prominent is pregnancy, which, by increasing the size and weight of the uterus; by changing its form and its vascularity as well as its relation to other organs; by straining its ligaments and demoralizing its means of support; by debilitating the general strength and tone of the nervous and muscular systems; and by the traumatism that is incident to delivery, is a more potent factor of these difficulties than any other.

Predisposing causes.

Menstruation is also a powerful predisponant of uterine displacements.* The monthly congestion of the ovaries and their appendages, the risks of interruption to the flow, the sudden diversion of the blood to other parts of the body, and the pelvic engorgement that attends upon an imperfect or incomplete performance of this function, supply the conditions for disorders of place which are unknown before puberty and after the climacteric. Obstinate and habitual constipation, paralysis of the rectum, and a round and capacious pelvic brim should also be classed among the predisponents of uterine displacements.

Another class of predisposing causes are avoidable, and must be charged to the usages of modern society. The habit of tight lacing, the wearing of heavy skirts and dresses which are not properly suspended from the shoulders, and of high heeled shoes, which change the relation of the organs within the pelvis and place the centre of gravity where it does not belong, are all of them, in a greater or less degree mischievous. Skating, dancing, riding on horseback, without regard to the menstrual period, and especially the new method of cultivating

Avoidable causes.

*See pages 122 and 160.

the voice, which is called the "abdominal method" and which develops the diaphragmatic, at the expense of the thoracic respiration, are fruitful sources of uterine displacement.

The exciting causes of this class of troubles are of three kinds, (1) the *intrinsic*, or those which lie within the uterus itself; (2) the *extrinsic*, or those which are within the pelvis and abdomen but outside the uterus; and (3) the *accidental*, or such as result from some mechanical violence.

The exciting causes.

The most frequent of the intrinsic causes of uterine displacements of all kinds are puerperal subinvolution, pregnancy, chronic metritis, menorrhagia, interstitial and intra-uterine growths, as fibroids, polypi and hydatids; hypertrophy of the cervix; and chronic corporeal cervicitis. The study of these causes is indispensable to their careful and successful treatment. I would no more think of trying to cure a chronic case of prolapsus without first measuring the depth of the uterus with a graduated sound like this, (Fig. 71) than I would of giving

The intrinsic causes.

FIG. 71. Jenks' elastic graduated sound.

a diagnosis of whooping cough without looking at the frænum linguæ.

When you have no graduated one, an ordinary sound will answer the purpose. Each and all of the affections named are characterized by an increased depth of the uterus, when we measure from the os to the fundus of the organ. For this reason, the sound is as important in a case of prolapsus or of procidentia, as it is in versions and flexions of the womb, although in a very different way.

The extrinsic causes are the inclination or bias which the uterus has received during pregnancy; the pressure of extra-uterine fibroids, of ovarian, abdominal, and pelvic tumors, and of the abdominal viscera; the lesions of place that have been entailed from pelvi-peritonitis, pelvic cellulitis, and pelvic hæmatocele; ascites, chronic cystitis, cystocele and stone in the bladder; rectocele, hæmorrhoids, prolapse

The extrinsic causes.

of the bowel and of the vagina, and laceration of the perineum. The kind and degree of displacement induced by this class of causes varies with circumstances and with the tolerance which the uterus has for them.

The accidental causes.

The accidental causes are chiefly mechanical, and include the mischievous effects of falls, blows, and injuries from jumping, or straining the body severely. The extreme or spasmodic action of the diaphragm in coughing, convulsions, in running, or rapid breathing from any other cause, may also put the womb out of place. Here we have a veritable dislocation, which is the result of applied force, the same as in luxations of the elbow or shoulder from an accident.

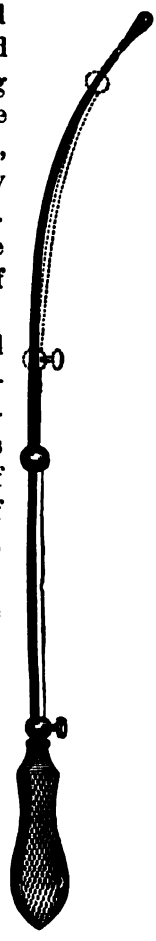


FIG. 72. Gidden's uterine sound.

Symptoms.—The symptoms are direct or pelvic, and remote or reflex. The direct symptoms are recognizable by one or another of the modes of physical exploration of which I have already spoken. (Lectures IV and V.) They vary with the kind and degree of the displacement, and will therefore be treated of when we come to speak of the several varieties of this general disorder.

The remote symptoms are of two kinds (1) those which arise from a derangement of the intra-pelvic circulation, and (2) those which depend upon disorders of the nervous system, both ganglionic and cerebro-spinal. The former class of causes accounts for most of the troubles with the liver, the kidneys, and the digestive organs which either as cause or effect, usually attend upon uterine displacements. The nervous causes implicate the more distant functions and organs, and indirectly give rise to the hysterical symptoms which are so common in these disorders of place, as well as in uterine affections generally.

Diagnosis.—The diagnosis will be considered when we come to speak of the different varieties of displacement to which the uterus is subject. At present it must suffice to say that a careful and reliable diagnosis in this class of affections is absolutely impossible without a physical examination.

Treatment.—The general therapeutics of uterine displacements involves several important questions: (1) the significance and clinical value of the subjective symptoms in the choice of the remedy, or remedies to be employed; (2) the possibility of curing these displacements with internal remedies only; and (3) the use and abuse of the mechanical treatment by pessaries of various kinds.

General therapeutics of.

Concerning the two first of these inquiries, it has always seemed to me that, in a given case, if the subjective symptoms are common to two or more kinds of uterine deviations; if they are not to be depended upon exclusively, even in the simplest cases, in making a diagnosis; if the misplaced womb may cause such derangement of the circulation and of innervation as will persist until the organ is reposited and kept *in situ;* if the lesions of the uterus and of its appendages, which cause and complicate these displacements, are of so varied a character; and if the hysterical epi-phenomena are most prominent and least significant, we ought not to rely wholly upon the complaints of the patient in our selection of the remedy. You may depend upon it that the cures which have been claimed for internal treatment based upon such indications merely, are faulty and fallacious.

The scope and value of internal remedies exclusively.

The idea is not that the symptoms of which the patient complains in these cases are of no value, neither that remedies which are given upon pathogenetic indications are always inefficient. For these subjective symptoms have their value, which varies in different cases; and medicines that are given in this way are sometimes, but not certainly, or even usually, curative. Both are too slender to be relied upon exclusively. Both need to be re-enforced: the symptoms, by a careful physical and objective examination, and by physiological reasoning; and the indications, by a knowledge of the intrinsic, the extrinsic, and the accidental causes of the displacement, by clinical experience, and by physiological reasoning also. Hence I have said that the reports of cases in which it has been claimed that deviations and displacements of the womb are easily cured by the affiliated remedy are *faulty*, because they have not told the whole story; and *fallacious*, because they may mislead you into supposing that such a result is the rule and not the exception.

The necessity for reliable indications of all kinds.

That our internal remedies may, and do sometimes work wonders in this way, even in this class of cases, there is no doubt, in my own mind at least, for I have tested them very thoroughly. But I should lose faith in my own clinical convictions, if they had no better foundation than the improved state of feeling, and the mere say-so of my patients.

In an old play, I think it is the *Octoroon*, there is a scene in which a poor fellow is on trial for his life for having murdered a man in an out-of-the-way place. The evidence is all in, and the case is about to be closed with the result of liberating the prisoner, when a travelling daguerreotypist rushes into court with a picture that he had incidentally taken of the scene of the murder, including, of course, the portraits of the prisoner and of his victim. When all other evidence had failed, the guilty man was convicted by this proof and by the plea of this providential witness who in referring to his *camera-obscura*, said "the apparatus can't lie!"

In all semi-surgical affections like those under consideration, the subjective sensations partake of the nature of circumstantial evidence. Without more direct and positive proof we shall first fail to convict the patient of having a real displacement, and afterwards to convince a competent professional jury that we have really cured one. But, when the evidence that the uterine sound can furnish is brought into court, we shall have the facts in the case, for "the apparatus can't lie."

Bear in mind, therefore, that the symptoms upon which you are to rely for the choice of your remedies in this class of cases are the cardinal signs that are coupled with some structural or functional disorder of the generative intestine, the bladder, or the rectum, or of the peritoneum, or the cellular tissue within the pelvis. If either of these lesions is post-puerperal, or if it is especially connected with menstruation, the symptoms will have a peculiar significance.

The cardinal symptoms.

You will have an ample illustration of this mode of prescribing in my clinic, but let me quote a case which several of the subclasses have seen upon my table:

Case.—Prolapsus from sub-involution. Mrs. T——, aged 28, married, has had but one child which is now two years old, and no miscarriages. Her labor lasted only half an hour, her lying-in was tedious, but so far as we can learn, she had no especial illness. Her health has, however, been wretched from that time until the

present. She nursed the baby for fourteen months. The menses returned when the child was nine months old, and have come regularly and copiously every three to four weeks since that time. She complains sorely of bearing down pains, and dragging in the hips and loins, which almost entirely prevents her from being upon her feet. At times there is so much downward pressure that she feels as if all the pelvic organs would be forced out. Her appetite is gone, and she is generally in a very forlorn condition.

Local examination by the touch, found the uterus considerably prolapsed, tumefied, and tender. In the field of the speculum, the os uteri was found to be lacerated in a linear direction, and the anterior lip discolored and badly swollen. The sound passed readily and showed that the depth of the uterus was four and one-half inches.

She took secale cornutum 2, three times a day for two weeks; and then secale 3, as often for another fortnight. She received no local treatment whatever, and took no other remedy.

At the end of one month the uterus was measured again in the presence of the sub-class, and its depth was found to have been reduced to three and one-half inches. Meanwhile her general health and spirits had improved in a corresponding degree. The dilapidated, dragging sensations had almost entirely disappeared, the pressure was gone, and the appetite had returned. She had passed through another menstrual period, but instead of continuing copiously for five or six days, as heretofore, it lasted only three days and was of moderate quantity. Secale 3, was continued as before.

I will not repeat what has already been said concerning subinvolution of the uterus, but will remind you that, in the case just cited, the cause of the prolapsus, as well as of the menorrhagia, was recognized by physical exploration. The curative indications were partly physiological, and partly clinical. If the secale would finish the work of uterine involution, which for some unknown reason had been interrupted during the lying-in, it was exactly what was needed to put an end to the prolapsus. That it did so, even after an interval of two years from her lying-in, was evident to all the pupils and several physicians who saw the case with me. "It runs without saying" that the laceration of the cervix was not an obstacle to the cure of the subinvolution.

The opposition to pessaries an old story.

The opposition to the use of pessaries is not new, for there have always been those who were so prejudiced against them that they could not be persuaded to employ them. This is one of those questions, which like the propriety of tying the funis, of putting on the

binder, or of giving quinine for intermittent fever, blooms perennially in our medical societies. Nor is it likely to be settled until physicians have learned to discriminate between cases of displacement that are primary and those which are secondary. This is the first step towards the correction of extreme views on both sides; for where both parties hold to a half-truth neither has the benefit of the whole truth.

A pessary is a crutch, or a prop, that is used under protest, and for the most part temporarily. If it is of the proper kind, and is properly applied, in suitable cases only, it is an undoubted means of relief. The mischief that is sometimes done by them arises from the notion that they are always necessary; from a preference for one pattern for all cases indiscriminately; from their not being fitted appropriately; from their being introduced or worn without regard to the month; and from a lack of cleanliness, which is often consequent upon wearing them. Certain varieties are especially harmful. If the ring pessary (Fig. 30) is too large it will stretch and paralyze the vaginal muscular fibre, and practically destroy the means of uterine support from below the organ. If the cervix is capped with a cup that is either too large or too small, its protecting epithelium will soon be destroyed, and abrasion and ulceration will follow. All kinds of stem-supports are likely to induce cellulitis, or peritonitis which may result fatally. (Fig. 74.)

The causes of mischief from pessaries.

FIG. 73. McIntosh's pessary.

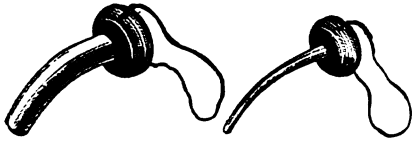


FIG. 74. Curved stem pessaries.

When pessaries have been worn long enough to have been forgotten, and have decomposed or broken within the vagina, they have given rise to ulceration and to fistulæ. A case of this kind was reported to our National Society a few years ago by my friend Dr. S. S. Lungren, of Toledo, in which he found the fragments of a glass tumbler that had been introduced bottom side up to sustain

the uterus. Similar cases are on record in our medical works, and, although it may seem strange to you that a woman should have forgotten the introduction of such an instrument, you may perhaps stumble upon such things in your own experience. A case is recorded in the Ohio *Medical and Surgical Journal* for 1852, in which a wooden pessary was removed after it had been forty-one years in the vagina.

FIG. 75. McIntosh's uterine pessary.

The contra-indications for pessaries are numerous and important. They are certain to be harmful if there is sub-involution of the uterus, chronic metritis, corporeal cervicitis, endo-cervicitis, in vaginitis, and in all kinds of circum-uterine inflammation, as pelvic cellulitis, and pelvic peritonitis with or without hæmatocele.

Contra-indications for.

They are more especially indicated in displacements with vaginal relaxation and prolapse, procidentia, with cystocele and rectocele occurring in women of a very lax fibre, with muscular atony, who have borne their children rapidly, and who are compelled to be upon their feet most of the time. In some cases of uterine displacement that occur in the early months of pregnancy, and in scirrhus of the cervix and lower segment of the womb, pessaries are of great temporary benefit. The same is true when, as in old ladies, we are not warranted in operating for the radical cure of these displacements.

Indications for.

Case.

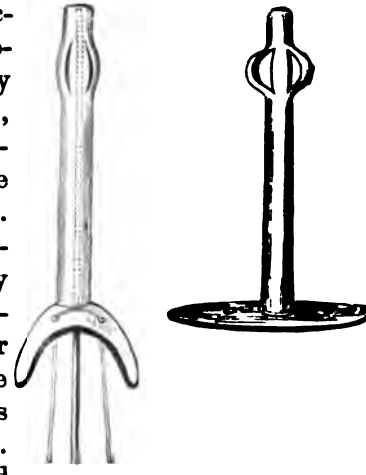


FIG. 76. Coxeter stem pessary.

Briefly, I think it is wrong to abuse these instruments, or to insist upon dispensing with them altogether, until we have something better to fill their place and to answer their purpose. If you discard them entirely, and refuse to apply them under any condition, a certain share of your patients will be compelled to consult those who will use them for their relief. And, after all, since they do not interfere with the action of fitly-chosen remedies, we may resort to them as to any other form of surgical dressing, as for example, to a truss in hernia, or to splints and bandages in other dislocations.

Argument for their use.

Closely related to the last of the three questions that we have answered is that of resorting to external, or abdominal supports for the relief of certain forms of uterine displacements. There are two sides to this question also. The objections urged against these belts, binders or corsets, as a class are that, when snugly applied they weaken

Abdominal supporters.

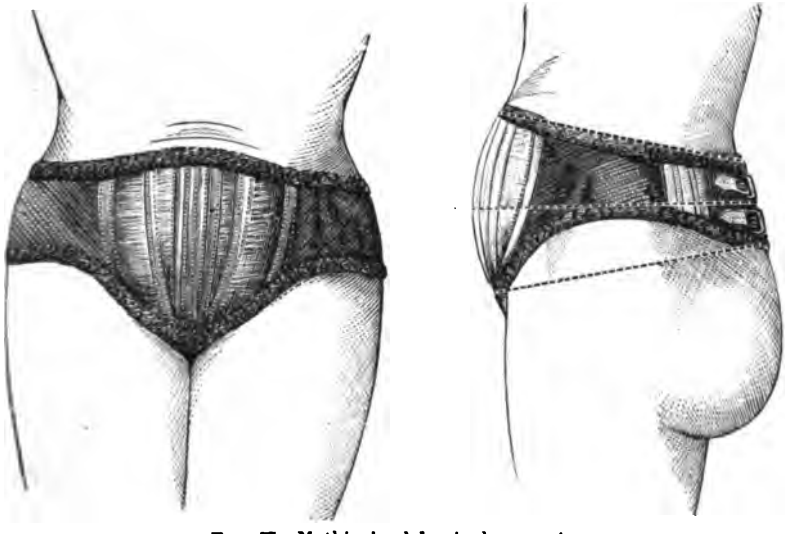


FIG. 77. Mathieu's abdominal supporter.

the abdominal muscles by their steady pressure; that they force the intestines downwards upon the displaced uterus and thus increase the difficulty; that they interfere with the freedom of action of the diaphragm, and so embarrass respiration; and that, sooner than with any other form

Objections to.

of support, a woman becomes a slave to them, and must continue to wear them indefinitely.

The advantages of this form of support are their cheapness, the ease of their application by the patients themselves; the possibility of wearing them and the relief afforded by them in some cases of peri-uterine inflammation; their adaptation to cases in which from over-distention and rapid child-bearing the abdominal parietes are so lax as to permit the weight of the intestines to fall upon the uterus; and the fact that, when properly arranged, they afford a better perineal support than any form of pessary can possibly do.

Advantages of.

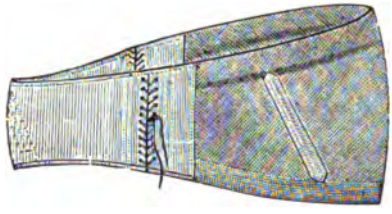


FIG. 78.

But these instruments are not adapted to all cases indiscriminately; nor is any one pattern always suited to the same variety of displacement in different persons. One woman will feel more comfortable, and derive greater benefit from a simple elastic belt which she can fit for herself, while another will need a more complicated binder with elastic straps and adjustable pads, which can be shifted like those upon a truss. Here are three kinds of belts which in many cases will answer a good purpose. (Figs. 78, 79 and 80.)

FIG. 79.

Other forms of this binder are more or less popular in different parts of the country. You will find a dozen or more of them on my desk, and can examine them, or try them on if you like, at the close of my lecture.

Twenty years ago one who had had more experience than any other physician in America, in the treatment of uterine displacements wrote as follows:

"From what has been said, the conclusion may fairly be made, that external supports are at least but palliative as regards some symptoms of displacement, and that they have no tendency to restore the organ to its proper position; but, on the contrary, that the whole tendency of the abdominal brace is to aggravate the pressure on the uterus, and increase its deviations. Hence

such supporters should be enumerated among the causes, original or aggravating, of uterine displacements, and not among the remedies. This view is confirmed by the constant experience of the author. Few patients, for some years, have come under his care in which these bandages have not been used for a longer or shorter time; yet, in all cases, the displacement was found still existing, and in some to a great degree." *

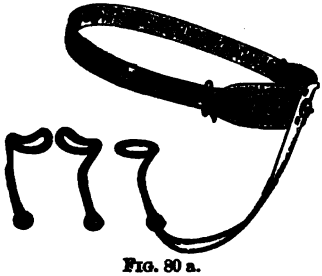


FIG. 80 a.
Shannon Self Adjusting Supporter.

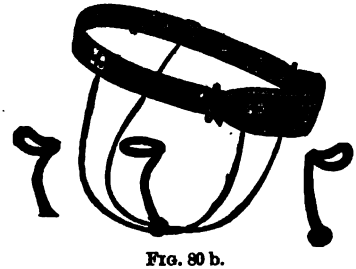


FIG. 80 b.
Shannon Elastic Supporter.

It is well to remember that women with downward displacements of the womb are really suffering from a hernia of that organ, and like one with an inguinal or a femoral hernia, are in need of some kind of a mechanical support. For those women who are obliged to be upon their feet a great deal under these circumstances, one of the two forms of the Shannon supporter often answers a very good purpose. (See Fig. 80.)

*On Diseases peculiar to women, including displacements of the uterus. By Hugh L. Hodge, M. D., etc., 1860, page 299.

LECTURE XXXVIII.

PROLAPSUS UTERI AND PROCIDENTIA.

Pseudo-prolapse of the uterus. Prolapsus uteri, with superficial ulceration of the cervix. Prolapsus uteri with right latero-version. Prolapsus with anterior inclination of the fundus uteri. Procidentia uteri. Procidentia uteri from pertussis.

Case.—At five P. M., of June 4, 1866, I was summoned in haste to visit Mrs. ——, who, the husband wrote me, was "almost dead with prolapse of the womb." In his note he requested me to bring the necessary instruments for replacing that organ. The patient, aged 52, had been ill one week, under the care of two physicians who had diagnosticated the case as one of prolapsus uteri, and who, I was told, had several times restored the womb to its normal position. These operations had caused her great pain, and she had a mortal dread lest I should think it necessary to repeat them. The day previous, the doctor had succeeded in introducing a Hodge's lever pessary, which, after a little, dropped out of itself. Although she had taken opiates freely and frequently, she had not slept for two days and nights. There was retching and bilious vomiting, and, although she had taken cathartics, the bowels had not been opened for four days. There was much ineffectual tenesmus, and with each effort at stool she complained of feeling as if the uterus and neighboring organs would be expelled from the body. She was exceedingly nervous, and at intervals of five to fifteen minutes suffered acute pains across the inferior portion of the abdomen. These pains were aggravated by motion and by any considerable degree of mental excitement. She described them as short, sharp, spasmodic, cutting and colicky in nature. She was greatly depressed in spirits—"must have relief or she should die."

I enjoined rest, as first and most important. Belladonna 3d, and nux vomica 3d, were to be taken in hourly alternation until the symptoms improved, after which they were to be repeated every two hours. If she slept, she was not to be awakened or disturbed. If the bowels did not move before daylight, they might give her an enema of tepid water. I made no examination per vaginam.

June 5, 5:30 P. M.—Patient better. After taking the first dose of the belladonna she slept for some minutes, and had but one more spasm of the pain. The remedies were repeated only at

long intervals, for she slept quietly during the greater part of the night. At daylight, not having had a stool, the enema was administered with good effect, although the passage was very painful, and she was much exhausted in consequence. The tenesmus and vomiting were relieved, and she declared herself well. Continued the same remedies once in four hours. The "touch" revealed the uterus *in situ*. The husband and family were delighted with the promptness of the relief afforded.

Two days later this patient was able to attend to her household duties.

Frequency of uterine prolapse.

Nothing is more common than a temporary prolapse of the womb. Some women have it at each menstrual period; others after any extraordinary fatigue, as in walking or riding; some from a fit of mental anxiety or of coughing; others after a stool; and others again after coitus. When induced by these causes it is a self-limited affection, and may pass away with rest in the recumbent posture. This is a very different thing from a chronic and inveterate prolapse, and requires very different treatment. If my predecessors had recognized this fact, this patient would have improved before I came; for in that case they would have forborne to do anything mischievous. A correct knowledge of special pathology on the part of the physician is sometimes an excellent safeguard for the patient.

Consequences of incorrect diagnosis.

One of two ill results may follow a wrong diagnosis in cases of this kind. Either the slight and temporary displacement may be converted into a permanent one, with all its consequent suffering and disorder, by reason of a harsh and inappropriate treatment; or it may happen that harmless and inefficient means may get the credit of holding some specific curative relation to uterine deviations of whatever kind.

Unnecessary manipulation.

Nothing could be more cruel, harmful and unnecessary, than to resort to manual treatment in such a case as this, in the stage in which I found it. Why explore and worry such a sensitive womb with the sound? Probing will not relieve these acute symptoms, and a pessary would be about as useful as a fracture box in inflammatory rheumatism.

Opiates might deaden the sensibilities, but they are possessed

of no curative relation to the symptoms detailed, and would indirectly unhinge the nervous sympathies more and more. If the cathartics operated at all, the effect would be, by increasing the peristaltic action of the intestines, to increase the uterine displacement and to render it more permanent. There is no question, in my own mind at least, that very many examples of confirmed prolapsus have been entailed upon our patients by such inappropriate and inexcusable treatment at the hands of those who have preceded us.

Harmful medication.

On the other hand, the fact that such cases may get well of themselves, providing we do nothing to interfere therewith, is too frequently lost sight of by our physicians. Every kind of remedy has thus been given and extolled as a specific for uterine deviations. You will find the most incredible stories of cures with this or that dilution detailed in our books and journals. Perhaps a single dose has worked the most marvelous results, the womb being replaced, according to the report, almost as soon as the medicine was swallowed, no allowance being made for the tendency to a spontaneous reduction of the dislocation, the self-limited nature of the attack, or the good effect of rest in the proper position.

Spontaneous cures and quackish claims.

When carefully chosen, it is reasonable to suppose that our remedies are capable, in many instances, of curing what might otherwise develop into a troublesome case of uterine prolapse. We may sometimes avert such a consequence of neglect, or of ill-treatment, in much the same manner as we prevent a case of pulmonary congestion from resulting in pneumonia. It is possible, by this means, to spare our patients much suffering, and frequently to turn aside what would otherwise be a real calamity. I cannot claim that belladonna is a specific for any form of uterine luxation, but I may insist that it was adapted to the relief of the peculiar incidental symptoms of which this patient complained. Nux vomica will not go to work like an intelligent agent to restore the fallen womb to its proper position, but it holds a specific, pathogenetic relation to the incidental symptoms in many cases of the kind. And so of podophyllin, sepia, calcarea carb., and many other remedies. We must select the remedy according

What remedies may do in prolapsus.

to the symptoms that are present, just as in a case of incipient pneumonia, or pleurisy. In this stage, the proper treatment is medical, and not surgical.

Whether you should alternate remedies, as it seemed best for me to do in this case, your own observation must help you to decide. It would be very wrong to claim that cures have not been effected in this manner, and equally at variance with truth, to assert that careful study and close observation do not lead a majority of practitioners more and more to prefer the single remedy.

Alternation of remedies.

PROLAPSUS UTERI, WITH SUPERFICIAL ULCERATION OF THE CERVIX.

Case.—Mrs.——, aged twenty-four, began to menstruate at twelve, from which period she dates her illness. The catamenia are irregular, sometimes appearing once in three weeks, again in four, and, occasionally, with an interval of five weeks. The only particular suffering experienced at the period is a dull, aching pain about and in front of the left hip, and a dragging pain across the loins. The flow usually continues three days, and is normal in quantity and quality.

During the inter-menstrual period she complains of a bearing down sensation within the pelvis. There is great weakness of the back in the lumbar and sacral regions. Standing for any length of time, or walking a short distance, fatigues her exceedingly. When weary, she is subject to a peculiar sensation in the lumbar region, "as if a considerable portion of the backbone, perhaps six inches long had been removed." This is soon followed by a faint feeling, and sometimes by actual syncope. At other times, and especially if she is in a room in which there are many other persons, as in a church, or in a concert hall, there is a sense of impending suffocation. Sometimes the unnatural feeling along the spine recurs without any apparent cause or premonition. Then follows an irresistible propensity "to drop down upon the knees." At such times the lower limbs feel numb, insensible, and semi-paralyzed, but the knees are especially weak and powerless.

Another symptom which she has remarked is a sense of coldness on the top of the head, which, whenever she swallows either cold or warm drinks, is curiously changed into a sensation as of "crawling" under the scalp. So marked is this symptom that she has insensibly acquired the habit of placing her hand on that part of the head for its relief, whenever she puts a cup or glass to her lips.

For some years past (she does not know how long) she has had leucorrhœa. The discharge is habitually more profuse immediately before, but ceases during menstruation. In character she describes it as "catarrhal," creamy, bland and unirritating.

The touch reveals the uterus prolapsed, the neck of the womb tender and tumefied. When she stands, the anterior lip of the cervix rests upon the posterior vaginal wall, directly over the perineum. Upon examination with the speculum, a large, irregular, suppurating ulcer was found to extend within the external os uteri, and over a considerable portion of the anterior lip of the cervix.

Uterine deviations not untrequently date from puberty. They are the more likely to follow if menstruation begins at a very early or a very late age. With this patient the flow first appeared when she was but twelve years old. Under these circumstances it must have required more than ordinary effort on the part of the ovaries and the generative intestine to establish this very important function. The ripening, transit, and parturition of the ovum in such subjects resembles labor, and so far as disorders of place are concerned, the consequences to the uterus are of a similar character to those which are contingent upon that process in older women. In the case before you, the afflux of blood to the internal generative organs, the increased weight of the womb, the requisite dilatation and relaxation of the uterine cervix and of the vagina, the contractile effort of the womb to expel its contents, supplied the identical conditions which predispose to uterine displacements following abortion or labor at term.

Uterine luxations may begin at puberty.

Irregular menstruation may be a cause or a consequence of uterine deviations. In one form or another they are very apt to coexist. It is unusual to meet with a chronic case of prolapsus, or of retro-version, in which the menses are not more or less irregular as to the time and method of their recurrence. This state of things is undoubtedly due to a derangement in the local, intra-pelvic circulation. The uterus has become the seat of venous engorgement. Its increased weight has borne it down upon the structures that were designed to sustain it, until they have given way, and it has become displaced. For if the uterine ligaments are not fortified against this increase of weight in the womb, an undue or unusual determination of blood to this organ, or sluggishness in its circulation, weakens these supports, and renders them more liable to yield.

Irregular menstruation a cause of prolapsus.

Hence, also, the frequent complications of uterine displacements with chronic disorders of digestion. The connection between the venous systems of the uterus and the liver, explained in my remarks upon another case is significant. There are few examples of prolapsus which are not accompanied by hæmorrhoids, prolapse of the rectum, or by a more or less obstinate constipation.

Uterine luxations and digestive disorders.

Lumbar and sacral pains are incident to most cases of prolapsus, and of uterine ulceration also. But the kind and degree of these pains are modified according to circumstances. As a rule, they are more acute and tormenting in nervous, hysterical, and delicate women than in those who are of a different temperament and organization. Among the more robust and energetic there is sometimes a remarkable tolerance of uterine displacements, which may exist for years with little complaint of pain in the loins, or of especial suffering of any kind. But these cases are exceptional.

Lumbar and sacral pains.

In prolapsus, the pains in the lumbar and sacral regions are brought on or increased by standing, riding or walking, and sometimes by bending forwards and then rising suddenly to an upright position. The back feels very weak, and perhaps as though it were actually broken in two. The more chronic the case, the greater the suffering, more especially if at the same time the patient has leucorrhœa, irregular menstruation, or ulceration of the uterine cervix. For, independently of the falling of the womb, these several diseases are almost always accompanied by similar symptoms. This poor woman has them all, and it is by no means strange that such an array of symptoms should present themselves.

The dropping down of the uterus, and its direct pressure upon the anterior sacral nerves, and also upon the utero-cervical ganglia, of the sympathetic, is sufficient to account for the sudden, partial, and temporary paraplegia, or powerlessness in the lower limbs. She falls upon the knees irresistibly. There is numbness and semi-paralysis, which are self-limited. The nervous currents between the spinal center and these parts are interrupted, and the consequence is manifest. Rest, with change from the upright to the horizontal position, causes the womb to lift itself, as the French would say, and the normal nervous circulation returns.

Prolapsus and paralysis

The same physiological reasons explain the peculiar sensation "as if a portion of the spine had been removed," the faintness, the syncope, and the eccentric symptoms which are referred to the top of the head. Through the frequent recurrence of this displacement, the nervous system has acquired a predisposition to hysterical complications. On this theory, the increase of suffering from swallowing cold or warm drinks, which act produces a "crawling" sensation beneath the scalp, as well as the sense of suffocation when in a room full of people, are by no means inexplicable. The relief afforded by pressure upon the top of the head, proves that the peculiar sensation felt in that region is purely nervous.

Hysterical complications.

Let me remind you, however, that these symptoms are none the less real because we style them "nervous," and because it is only through our knowledge of the reflex nervous system that we are competent to explain their existence. In truth, this woman has suffered more from these peculiar sensations in the head than from pains in the loins, or in the left iliac region, the temporary paralysis, or from any and all of her other symptoms. For, although the element of exaggeration enters largely into the hysterical constitution, we cannot doubt that persons with this temperament are possessed of an increased susceptibility to pain and disease, and that they do really suffer more than others under similar external circumstances.

The reality of "nervous" symptoms.

But this case has other complications. Some authors will tell you that prolapsus, leucorrhœa, and uterine ulceration, like a cough or a diarrhœa, are not to be considered as so may separate disorders, but as *symptoms* merely. And in the main their view is correct; but symptoms, like quarrels, do not come without cause. When it is possible, we must find out their source, in order to be able to explain their significance and to cure them. There may have been an order of sequence in the coming on of these symptoms, which it is most desirable and necessary for the physician to know.

Symptoms *versus* disease.

Our patient has a chronic prolapse of the womb, which in all probability owes its origin to causes already named. Following this displacement, and consequent upon it, she also has leucorrhœa and uterine ulceration. Which of these two contingent affections came

Leucorrhœa and ulceration from prolapsus.

first, we do not know. Nothing is more common than a leucorrhœal flow of a catarrhal nature accompanying the slighter and more temporary degrees of uterine prolapse. Here the discharge depends on glandular derangement without structural lesion. There need be, and generally is, in these cases, no ulceration whatever.

Ulceration from abrasion.

But if the uterine deviation is persistent, and especially if the uterus lies low upon the perineum, its friction against the posterior vaginal wall is pretty certain, sooner or later, to cause an abrasion of its investing epithelium. This mechanical cause may induce and perpetuate a superficial ulceration of the neck of the womb, or of the vagina, or of both of these parts together. As the deeper seated textures become involved in the lesion, a more or less copious discharge is poured out, and in future the leucorrhœa will either depend entirely on, or be greatly modified by the existing ulceration.

Ulceration *sans* inflammation.

The belief is very general that, directly or indirectly, all cases of uterine ulceration originate in the inflammatory process. But I apprehend this view is not correct. Inflammation always imperils the proper nutrition of the organ or tissue in which it is seated. Its chief danger lies in this very fact. But there are many disorders of nutrition, and some of them of a most serious character, which certainly are not in any manner dependent upon the inflammatory process.

Cause of uterine abrasion.

It is probable that a large proportion of cases of uterine ulceration commence with simple abrasion of the mucous surface. The wearing of an ill-adjusted pessary, or of one which is made of improper material, the careless employment of the female syringe; the abuse of sexual intercourse; horseback riding; mechanical injury of the os uteri during delivery; the use of harmful injections thrown into the vagina, especially after coitus or during menstruation; the contact of corrosive discharges from the uterine cervix, and of vitiated semen, as well as friction from the various uterine displacements, may be sufficient to produce it.

Superficial ulceration of the os following abrasion of its epithelium differs from other varieties of uterine ulceration. It consists

essentially in defective reparation of its investing membrane, and not in a destructive metamorphosis of the underlying textures.

Nature of ulceration from abrasion.

Treatment.—The medical management of such cases as this is especially vexatious. We must begin rightly or we shall fail. Any attempt to cure the leucorrhœa without recognizing or relieving the ulceration of the os uteri, or to remedy this lesion without doing anything for the displacement of the womb, would reflect upon our skill and experience. And so also if we were to elevate some of the incidental, irrelevant, hysterical symptoms of which our patient complains, to the dignity of characteristic symptoms, when they do not deserve such distinction, and afterwards busy ourselves with curing them.

Therapeutical reflections.

It is a rule in therapeutics that the symptoms of a complicated, chronic case of disease should be made to disappear in an order which is the reverse of that in which they came —the last first, and so back to the starting point. But when applied to the treatment of uterine affections, this rule has many exceptions. The most stupid blunders have sometimes been perpetrated through ignorance of this fact.

Rule deducible from the order of symptoms.

The first indication is to keep this woman as quiet as possible. She need not lie in bed all the time, but she should assume the recumbent position either upon the side or the back. And, if necessary, she should persevere in this for some weeks, or even for months. For you will not cure these cases so promptly as some enthusiasts would lead you to believe possible. Walking, standing, and sitting aggravate her sufferings. She must therefore, keep quiet.

Postural treatment.

Her shopping and her church-going must be done by proxy. She is no more able to run a sewing machine than she is to run with a fire engine. And, if she were my private patient, I should forbid her dressing her own hair—which is really one of the most tiresome and injurious kinds of exercise for a woman who is suffering from uterine disease. Her clothing should be worn loosely about the waist.

Dressing the hair, etc.

No matter what the kind and degree of the uterine displacement, if the os uteri is abraded or ulcerated, it is wrong to apply

any pessary whatever; for, by direct pressure upon, and contact with, the denuded surface, these instruments may work serious mischief. Under such circumstances, they have been known to increase the sufferings, to extend the lesion of the cervix, to multiply the reflex symptoms, and to augment the leucorrhœal flow. Keeping the patient in the proper position is a harmless and efficient substitute for these appliances in all cases of this partiuclar kind. (*Exit the patient.*)

Contra-indications for the pessary.

Another requisite for this woman's recovery, of which I have forborne to speak in her presence, is the prohibition of sexual congress. Otherwise it is next to impossible to cure some of these cases. Her separation from her husband will insure against the undue determination of blood to the internal generative organs, which is consequent upon the sexual act, and will thereby remove one of the principal causes that serve to perpetuate the abnormal condition and position of the womb. If we overlook or ignore this item, a cause which may counterbalance all our efforts at cure, will be constantly at work, and we may fail in consequence.

Prohibition of sexual congress.

I do not doubt that much of the boasted efficacy of escharotics in uterine ulceration should really be attributed to the interruption of sexual intercourse, which they necessitate. I can conceive that frequently the caustic might be less harmful than coitus. And so, also, of similar cures which are ascribed to the use of cold water in the various hydropathic establishments. Without saying a word against this system of treatment, it is quite probable that the benefit derived in many of these cases is due as much to the enforced absence of the patient from the bed and board of her husband, as to the bath and remedies that are prescribed.

Modus operandi of caustics, etc., in certain cases.

For the cure of a simple, suppurating ulcer of the os uteri, I know of nothing so beneficial locally as the calendula. To a drachm of the strong tincture of calendula add two ounces each of glycerine and distilled water. Of this mixture a tablespoonful may be put into a teacupful of tepid water for an injection per vaginam. This injection, which should be retained as long as possible, may be repeated once or twice daily. The calendula not only heals the abraded surface

Calendula topically.

most kindly, but it also relieves the swelling and tenderness of the cervix, which are so marked in the case under review. In not a few instances it may suffice to arrest the leucorrhœal flow.

Or a mixture of glycerine and water in equal parts may be applied by means of cotton tampon. If you think best, there is no valid objection to adding a few drops of the hydratis to this preparation. I have sometimes melted simple cerate and applied it directly to the denuded cervix, through the speculum, by means of a camel's hair pencil. Injections of sugar and water are wonderfully efficacious in healing these simple abrasions of the utero-vaginal mucous membrane. The preparation of collodion with castor oil, recently extolled by M. Latour, in his method of treating diseases by isolation, has been of great service to some of my private patients, in whose cases it was applied to the os uteri, in the manner as recommended for the simple cerate.

Other local expedients.

The internal remedies most appropriate for the case under consideration are nux vomica and calcarea carbonica. I need not detail their respective indications. If you will study the symptoms carefully, excluding those which are merely sensational and incidental, you will not fail to endorse my prescription. They should be given, for a limited period, night and morning—the nux at night and the calcarea in the morning. Let her report at the end of a week.

PROLAPSUS UTERI WITH RIGHT LATERO-VERSION.

Case.—Mrs. — complains of a series of symptoms, from which she says she has suffered for more than a year past. She is married, but has never borne any children, neither has she ever had a miscarriage. She has dragging pain in the hips and loins, and sometimes there is strangury, with obstinate constipation. The bowels move at long intervals spontaneously, but with much effort and tenesmus, which at times are ineffectual. The stools are invariable dry, hard, and scybalous. When straining at stool, she sometimes "feels as if everything would be forced from her." All the unpleasant symptoms are increased during and for some time after the menstrual period. At times she experiences severe cramping pains in the right thigh, which come on suddenly after prolonged exercise upon her feet, or after standing for a considerable time. The only means of relief that she has found from the latter paroxysms is obtained by lying down immediately upon the

left or opposite side of the body. By keeping quiet in this position for a little while, the cramp-like pain subsides and soon leaves entirely. She has not been able to lie with any degree of comfort upon her right side since her ill-health began. And if she rolls upon that side while sleeping, the cramps in the right thigh will awaken her at once. She has an almost constant headache in the region of the temples. During and after the menses, however, it is apt to be located in the occipital region. The flow is too profuse. It continues a whole week, instead of four days as heretofore. It is also too frequent, returning as often as every three weeks at the farthest.

Constipation from rectal paralysis.

You have doubtless observed the relative frequency of constipation as an attendant upon the diseases of women. One of its most common causes is a paralysis of the rectum. I have examined this patient per vaginam, and found the uterus prolapsed, and at the same time lying obliquely from right to left across the vagina. The most plausible theory of this displacement is that the descent and pressure of the womb against the bowel caused it to become paralyzed. The accumulation of fæcal matter in the rectum forced the fundus of the uterus toward the right acetabulum, and latero-version was the natural and necessary consequence. Whether the constipation really preceded or followed the prolapsus, it would be impossible to say. Latero-version of the uterus always depends upon pressure applied to the side of its body or fundus. It is incident to the history of fibroids, ovarian tumors, and to tumors within the broad ligaments. When due to either of these diseases the organ may be displaced either toward the right or the left side of the pelvis. When, however, it depends upon the pressure of a tumor caused by impacted fæces contained within the rectum, the fundus will, as in the case before us, always be thrown toward the right acetabulum and the cervix toward the tuberosity of the left ischium. The diagnosis may be confirmed by the introduction of the uterine sound or probe.

Latero-version from an over-loaded rectum.

The incidental symptoms are interesting and significant. The cramping pains of which Mrs. —— complains are referable to pressure of the corpus uteri upon the anterior branches of the sacral nerves. When she lies upon the right side, the womb falls upon those nerves, or is

The cramping pains.

pressed by the distended rectum against them. When she turns upon the left side, it drops away, and the cramp ceases. When she walks too far, or is upon her feet for too long a time, the womb is more decidedly prolapsed. The nearer its approach to the perineum the more direct and positive the pressure of the rectum toward the right side of the pelvis. Straining at stool only increases the difficulty, and it is no marvel that she feels as if all the pelvic organs would be forced through the vulva.

These cramp-like pains are very similar to those which may attend upon an advanced stage of labor. In presentations of the vertex especially, when rotation occurs suddenly and the head passes rapidly through the inferior pelvic strait, direct pressure upon the sacral nerves often causes the patient to cry out that her "legs are cramping." And so also in cases in which the womb is retroverted suddenly, as from a fall or other impulse, one or both the lower extremities may be violently cramped and even paralyzed. In this poor woman's case there is no dropsy of the feet and ankles, and the veins are not varicose, because the pressure is not applied to the vessels going to the lower extremities. Those vessels emerge from the superior pelvis beneath Poupart's ligament, and are, therefore, not liable to be pressed upon by the uterus, excepting in its gravid state, after the fourth month.

One of two causes may be sufficient to account for the implication of the bladder in this case. The strangury might be caused by the displacement of the uterine cervix, or by pressure of the uterus against the neck of the bladder and the urethra. The uterine cervix is so joined with the inferior portion of the bladder that it cannot be very decidedly displaced without dragging upon that organ, and give rise to more or less of irritation, inflammation, and vesical tenesmus. Hence it sometimes happens that the most prominent and persistent symptoms of uterine luxation are referred almost exclusively to the bladder. And, because they suppose that all derangements of the urinary function are due to renal disorder, patients not unfrequently consult their physician for the cure of disease of the kidneys, when they are really suffering from some form of displacement of the womb.

The vesical symptoms.

Such slight degrees of prolapsus, as are incident to the men-

strual period and to the early weeks of pregnancy, are sometimes the cause of frequent and painful micturition. These sufferings are, however, relieved spontaneously—by the escape of the menses and the subsidence of the monthly hyperæmia in the one case, and by the final ascent of the uterus above the superior strait in the other. In chronic prolapsus all these symptoms are made to vanish, at least temporarily, by lifting the womb into its proper position.

This case illustrates the possibility of uterine displacements disconnected with abortion or with labor at term. The frequent return of menstruation, and the excess of the flow, indicate a primary disorder of this very important function.

Treatment.—There are two reasons why this woman is not well. The first is, that her rectum is paralyzed; the second, that she menstruates too freely and frequently. All the symptoms that have the least significance may be referred to one of these two causes.

Leading indications.

This is the most common form of constipation in females. If the muscular coat of the rectum has lost its tonicity through neglect of the patient to attend to the calls of nature, or to go to stool regularly every day, this bad habit should be corrected. Enemata containing olive oil, or castor oil, may be given for temporary relief, with the view of softening and removing the impacted fæces. Laxative food is of more service in constipation depending upon causes which affect the upper portion of the intestine. Some of these patients with paralysis of the rectum might eat brown-bread, oatmeal, figs, prunes, or baked apples until doomsday without the least benefit.

To remedy the constipation.

If the uterus is prolapsed, or so displaced as to press directly against the rectum, that pressure must be removed, or the constipation can not be cured. And since these causes act and react, the uterine deviation may depend upon the lack of resiliency in the rectum, the presence of fæcal matter within the gut, or upon straining at stool. Pessaries are contra-indicated in case of uterine displacement with profuse and too frequent menstruation.

Empty the rectum—restore the uterus.

The most ordinary remedies for this variety of constipation,

with its incidental uterine displacement, are alumina, nux vomica, natrum mur., plumbum, opium, belladonna, sulphur, zincum and lycopodium.

Among those which are in best repute for the cure of too frequent and copious menstruation you will find calcarea carb., china, phosphoric acid, cantharis, zincum met., spongia, sulphur, kreosotum, and magnesia carbonica.

This patient will take nux vomica 3d at night, and calcarea carb. 3d in the morning, one dose of each daily. She must keep off her feet as much as possible, particularly at the catamenial season.

PROLAPSUS WITH ANTERIOR INCLINATION OF THE FUNDUS UTERI.

Case.—Mrs. S——, aged 27 years, has never been pregnant. She has had prolapsus and has worn a ring pessary for a year past. Local examination discloses a downward displacement, with a slight inclination of the fundus of the uterus towards the bladder. The menses are regular, but the prolapsus is much worse during the flow. The bowels are constipated and relaxed alternately, but she has no hæmorrhoids. Nux vomica 3, three times daily.

This case proves the possible inefficiency of the ring pessary, but it does not argue that vaginal supports are never necessary or useful. If the ring had been removed in advance of the menstrual period, and replaced after it, some good might have resulted. But, awkward as it is, I think a Hodge's pessary (Fig. 83) would have done better. For some of these cases the dumb-bell pessary known as Trask's (Fig. 81), or the hard-rubber pessary devised by Dr. Fraser (Fig. 84) will keep the organ in place. Zwanke's butterfly pessary, which is very popular in Germany, is sometimes very useful in these cases. As a rule, Hornby's instrument, which is cheap, durable, easily adjusted, with a spring-stem, and a perineal support, is the one that I prefer.

FIG. 81.

PROCIDENTIA UTERI.

Case.—Mrs. ——, aged forty-seven, who comes before the subclinic to-day has suffered from procidentia uteri for nineteen years, and since the birth of her first child. She has since that time given birth to five children and had one miscarriage. The menses

ceased two years ago, and she now complains of a feeling of great weakness, especially in her limbs, while the womb is dislocated, and asks that something may be done for her.

Fig. 82. Zwanke's pessary.

Case.

A fortnight ago I showed you a patient who had suffered from procidentia of the uterus, for sixteen years. You will remember that in her case, the tumor was very large, and that she told us it had been carried externally for a number of years without being replaced. The surface of the tumor was excoriated in large patches, and the cervix was swollen and discolored almost beyond recognition. The tumor was the form and size of an egg-plant, and, from venous congestion its lower portion had very much the same color. (Fig. 88.)

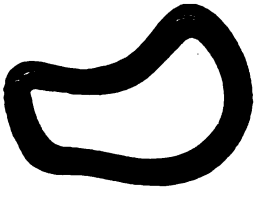


Fig. 83. Hodge's pessary.

In the case which is now on the table, although the tumor is not so large, the extrusion of the womb at the vulva is equally manifest. The pear-shaped outline of the organ is preserved, there are no excoriations, the two lips of the cervix are recognizable, you can see the patulous os, and the parts are not so discolored as in the former case. The exemption from some of these lesions is easily explained, for this tumor can be readily reposited. The womb must have returned into the pelvis, else she could not have become pregnant so often after its exit.

Fig. 84. Fraser's pessary.

The diagnosis of procidentia uteri is not difficult. We know it from inversion of the uterus and from fibroids and other tumors that might be extruded, by the form of the tumor, by our ability to recognize the lips of the cervix and the os uteri at its lower portion, and by the possibility of passing the uterine sound into it. Observe that I introduce the sound through the os uteri quite readily and pass its point directly to the fundus. I now withdraw it and show you the depth of the womb, which is exactly four inches.

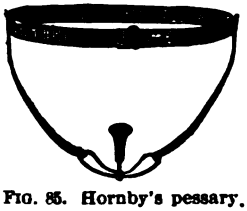


Fig. 85. Hornby's pessary.

Diagnosis.

There is very little doubt that this displacement of the uterus followed childbirth, and that the escape of the organ from the pelvis was facilitated by its defective involution.

Case.

Ten years ago I gave the class a lecture on procidentia, illustrated by a cadaver brought to the table, from the dissecting room. All the appearances indicated that the poor woman had died directly after labor. The uterus was not inverted, as it might have been from an improper delivery of the placenta, but it had been expelled in a perpendicular direction with the cervix looking downward. I passed the sound and showed the class that its depth was seven inches, careful examination of its textures satisfied us that it was the puerperal uterus which had thus been extruded. The case was a very remarkable one.

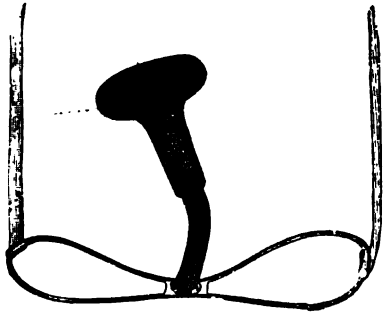


FIG. 86. Hornby's pessary.

Treatment.—There are three methods of treating these cases The first is to reduce the dislocation and afterwards to keep the parts in apposition, as the surgeons would say, by the adjustment of a pessary which would keep the womb where it belongs. We shall try this plan first and if it fails, must afterwards resort to one of the others.

The second method consists in removing a portion of the vaginal mucous membrane, (Fig. 87) as in the operation for cystocele, and bringing the edges together by suture in such a way as to narrow the vagina and prevent the extrusion of the womb. This is styled *elytrorrhaphy*, and in making it, I prefer Thomas' operation which I have already described under the head of cystocele.

Elytrorrhaphy.

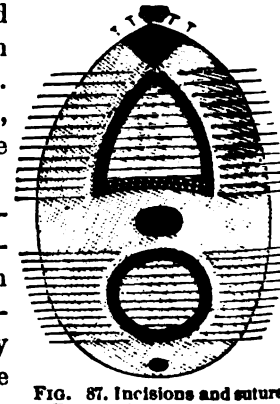


FIG. 87. Incisions and sutures in Elytrorrhaphy.

Episio-perineorrhaphy.

The third, consists in freshening the edges of the labia and bringing them together by suture so as to close

the vulvar orifice, excepting only a small opening which is left for the discharge of the urine. This operation is termed *episio-perineorrhaphy.*

PROCIDENTIA UTERI FROM PERTUSSIS.

Case.—At the eighth month of pregnancy, Mrs. ——, aged 32, was seized with a violent attack of whooping cough. The paroxysms of coughing were so frequent and severe as to threaten premature labor; but by careful management she was finally brought to term without any serious mishap. After delivery she got up well, the violence of the cough gradually abating until, at the end of two months, it had almost entirely ceased. With the exception of a slight cough, and an habitual constipation (which she always has while nursing), she felt herself well. At the end of the third month, and while taking her usual afternoon drive, she took cold, and the consequence was, a recurrence of the whooping cough. The fits returned with their former severity, and she "felt as if she should cough herself to pieces." The second evening after the return of these trying symptoms, while at stool, and during a paroxysm of the cough, she suddenly felt something escape the vulva. I was summoned, and arrived shortly. The womb had been forced entirely out of the pelvis, and was lying between the thighs. It was easily reduced by appropriate taxis and the proper treatment was instituted. She made a good recovery.

Pertussis is a rare contingent of pregnancy. This case is, therefore, somewhat extraordinary. I have cited it in order to make a few clinical points particularly clear to your minds. It illustrates the antagonism of the diaphragm and the perineum, the former of which, you remember, is the muscular floor of the thorax, and the latter of the abdomen, or, more properly, of the pelvis. In consequence of gestation, and after delivery, the lateral and interior supports of the womb are not always sufficient to retain it *in situ.* The ligaments have been stretched and off duty for so long a time that they are lacking in tone and strength. The vaginal and muscular column resting on the perineum has been so relaxed and distended as to yield it but little support from below.

Antagonism of the diaphragm and perineum.

This state of things predisposes to downward displacements of the womb after delivery. If the patient is upon her feet too early and too frequently, if the womb folds upon itself very

slowly, and its involution is imperfectly acccomplished, such mishaps are more likely to follow. Constipation in some lying-in women, and diarrhœa in others, are predisponents of prolapsus and procidentia uteri.

Among the exciting causes of these particular displacements in lying-in women, and in those who have recently been delivered, a violent cough is, perhaps, the most serious. Hence, we may have prolapsus in a slight or extreme degree as a concomitant of pneumonia, pleurisy, bronchitis, or whooping cough. The pectoral lesion

Cough a cause of uterine displacement.

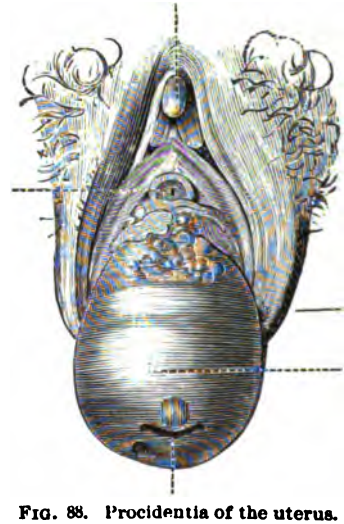


FIG. 88. Procidentia of the uterus.

proper has nothing to do with causing the displacement. The cough alone is responsible for it. It acts through the spasmodic and forcible contractions of the diaphragm, which it necessarily induces. And the more violent the coughing fit, the greater the danger of this unfortunate result.

During the fit of whooping cough the convulsive action of the diaphragm is sometimes prolonged and painful. In children it is very apt to be followed by retching and vomiting, and sometimes by severe and intractable tenesmus of the bowel. In the case of my patient, who had just been straining at stool, its effect was to overcome the slight resistance offered by the sphincter vaginæ and the perineal muscles, and to empty the pelvis of the womb itself. Of course, this

Labor a predisponent.

accident would be much more likely to happen at the second or third month after confinement than after the vagina and perineum, as well as the uterine ligaments, had recovered their tonicity, and were better able to sustain the womb, and to retain it in its proper place.

Treatment.—The treatment proper for a case of this kind is preventive, postural, and remedial.

The occurrence of a severe cough during gestation, and especially towards its close, should cause you to take especial pains to prevent such a sequel to the labor as happened in this case. After delivery the patient should be kept in the horizontal position for a longer period than usual. The binder should be snugly and firmly applied, and she should not be allowed to stand upon her feet until three or four weeks have elapsed. She should be cautioned against straining at stool, or in urinating, and counseled to suppress the desire to cough as much as possible.

Rest.

Where the womb has really been expelled, the first thing to be done is, of course, to replace it. This may be easily accomplished in recent cases. Place the patient on her back, raise the hips and lower the head. Then, having anointed the hand, grasp the tumor firmly, and insinuate it gently within the vulva, passing it first in the direction of the vaginal axis, and afterwards in that of the pelvic axis proper. When *in situ*, apply a perineal bandage and pad, which should be worn for some weeks, even after the patient has left her bed. There is no more natural and effectual support, in a case of procidentia than this. You can extemporize such a support out of the simplest materials.

Taxis and reduction.

The most appropriate and efficient remedies should be given for the cough, and every precaution taken to prevent a relapse. This is especially important in case of whooping cough, the effects of the paroxysm being so disastrous and prejudicial to permanent recovery. Cure the cough, and its indirect consequences will cease. Stop the convulsive action of the diaphragm, and the uterine displacement may not return.

LECTURE XXXIX.

FLEXIONS AND VERSIONS OF THE UTERUS.

Uterine Flexions. General remarks upon. *Retro-flexion.* The touch and the sound in the diagnosis of. *Case.*—Re-position of the organ. Stem pessaries. *Ante-flexion.* Comparative frequency of. Causes, diagnosis, and treatment. *Case.*—*Latero-flexion.* Causes. *Case.*—Symptoms. Contingent affections. Postural treatment. *Uterine Versions.* General remarks upon. Varieties. *Retro-version.* Clinical history of *Ante-version*, causes, symptoms, and treatment. *Latero-version*, the rarity of. *Inversion*, the clinical history and modern surgical treatment of.

General Remarks.—In order that you may have a clear idea of the nature of uterine flexions, two facts should be borne in mind: (1) that, in this kind of displacement the *shape* of the uterus is always changed, and (2) that the flexure occurs at the junction of the neck with the body of the organ. Properly speaking, therefore, these deviations are characterized by a change, or curve in the axis of the womb, which is bent like a chemist's retort.

Two peculiarities of.

You know that the uterine cervix is so fixed by its vaginal attachment as to be comparatively secure, while the body of the uterus has a greater latitude of motion. It is this arrangement which permits a bending or twisting of the organ backwards, forwards, or laterally, while its neck is *in situ*, or very nearly so. These flexions are facilitated by the peculiar disposition of the peritoneum, which is lacking at, and below the point where the neck and body of the womb are joined anteriorly. Indeed, this might be called the anatomical predisponent of uterine flexions of whatever kind.

The anatomical predisponent of.

Varieties.—There are three kinds of uterine flexion, (1) *retro-flexion*, (2) *ante-flexion*, and (3) right or left *latero-flexion*.

RETRO-FLEXION OF THE UTERUS.

We have already considered the relations of retro-flexion to obstructive dysmenorrhœa, (page 202), but something remains to be said upon this subject. This form of flexion is more common

than either of the others, and two causes, in addition to those already named, combine to make it so, *viz.* the effect of over-distension of the bladder, and of rectal paralysis, with or without obstinate constipation. This cut gives a good idea of the relations of the retro-flexed uterus. (Fig. 89.)

The bladder and the rectum in.

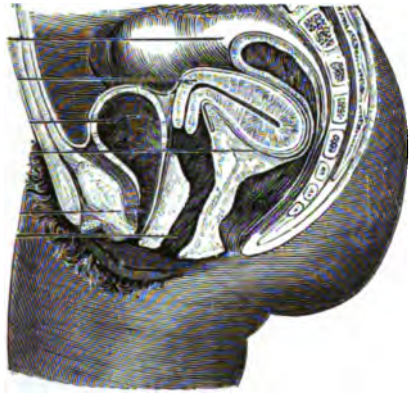


FIG. 89. Retro-flexion of the uterus.

The diagnosis of this particular deviation is not difficult. The subjective symptoms are not peculiar except that, as in other forms of flexion, they are most pronounced at the month, and that they usually subside when the flow has stopped.

Diagnosis.

If the flexion is acute, the ordinary vaginal touch may indicate both the direction and degree of the displacement. Madame Bovin proposed that in these cases the finger should be passed along the side of the cervix, instead of before it, or behind it, and the idea is a very good one. In the case of virgins, retro-flexion may be recognized by the rectal touch.

The touch.

But since there are so many retro-uterine tumors that resemble the form of a retro-flexed uterus, we must appeal to the uterine sound as a means of settling the diagnosis. I have had this patient placed upon the table in order to demonstrate the application and utility of the sound in similar cases. For this purpose I prefer a Sims' sound to Simpsons, the latter being too large and unyielding.

The uterine sound.

Case.—Mrs. ——, aged 25 years, has been married two years, but has had no miscarriage. Before her marriage she had scanty menstruation, with bearing down pain in the hips and loins, and inveterate headache. The bowels were constipated, and all her symptoms were aggravated at the month, as well as by standing and walking about. There are no vesical symptoms, but after fatigue she has fits of nausea that are accompanied by increased headache.

Observe that the touch finds the cervix in its proper position, or nearly so. This is the rule in all cases of uterine flexion which are not extreme or complicated. But when I pass the sound the direction of its point and of its curve afford a good idea of the direction and degree of the displacement. When what we may call the pelvic curve of the instrument looks downwards and backwards; when the point of the sound has turned towards the hollow of the sacrum; and when the sides of the handle are reversed, as

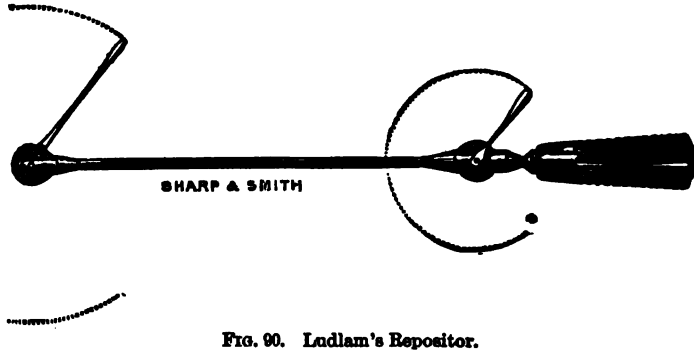


FIG. 90. Ludlam's Repositor.

you see them externally, we know that the body of the uterus is displaced posteriorly. By careful manipulation I have now succeeded in lifting it to its proper position, but as soon as I let go of the sound the uterus falls back again, and the sound is reversed along with it. This you can all see for yourselves.

There are several modes of repositing the retro-flexed uterus, one of which is to raise it to its proper place by means of the sound. Another is to use some form of elevator which is especially designed for the purpose. I prefer my own uterine repositor (Fig. 90); but Sims' (Fig. 14); or Noeggeraths' elevator (Fig. 91), may answer equally well. Great care should be used in their application, advantage being taken of the prone position, in order to facilitate the reposition of the organ.

Reposition of the organ.

The next indication is to keep the uterus in situ. In simple cases it will suffice to lift the fundus into place once or twice

per week, to replace it a few hours in advance of the monthly flow, and to keep the patient lying on the abdomen until the period has passed. This is a trying expedient, but it may answer the purpose, and enable us to avoid the wearing of instruments.

Keeping it in place.

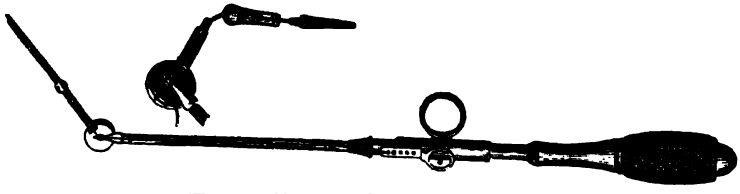


FIG. 91. Noeggerath's uterine elevator.

The best pessaries for uterine flexion are the straight, split, or curved stems, which have been in vogue since the days of old Dr. MacIntosh. In some cases the plain hard-rubber stem will be sufficient (Fig. 92.) At first it may be too straight to pass the internal os, in which case it may be bent to the required curve by holding it over the flame of a lamp. The principal objection to this stem is that it is apt to drop out, and hence, I prefer Chambers' stem pessary, (Fig. 93), which can be readily introduced and which expands in such a way as not to be easily displaced.

Pessaries in retro-flexion.

FIG. 92. Hard rubber stem.

FIG. 93. Chamber's stem pessary.

When the case has almost developed into one of retro-version, and the cervix is thrown forwards, if there is no circum-uterine inflammation (which is a bar to the use of intra-uterine stems of all kinds), Cutter's stem pessary will answer a good purpose. But it should be used very cautiously. (Fig. 94.)

The modus operandi of these stems is by passing through the canal of the cervix, the internal os, beyond and the point of flexion, to keep the uterus

The retro-uterine tampon.

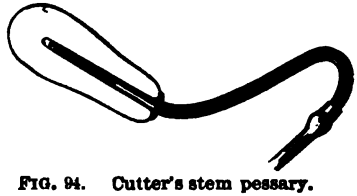


FIG. 94. Cutter's stem pessary.

in its own proper axis. Sometimes we have good results from pushing a cotton tampon, which has been anointed with carbolized cosmoline, into the Douglas' space, where it may be worn for some hours or days; or a little pad of oakum, or of carbolized tow, may be placed behind the uterus in a similar manner.

ANTE-FLEXION OF THE UTERUS.

In estimating the relative frequency of this form of uterine devi-

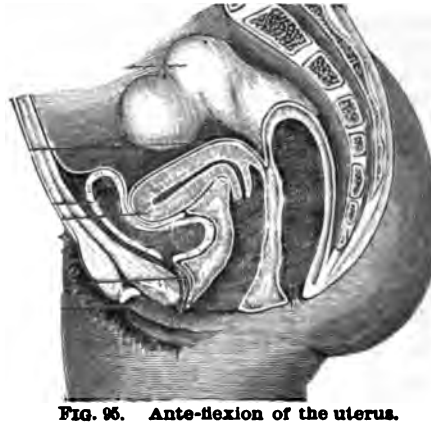


FIG. 95. Ante-flexion of the uterus.

ation, we should not forget that before puberty the normal position of the uterus is one in which it is curved very decidedly forwards; neither should we lose sight of the fact that this position of the organ may continue during menstrual life, without being in reality abnormal. It is only when the womb has toppled over toward the symphysis pubis and caused a train of symptoms, more especially connected with urination or menstruation, that the flexion requires treatment.

Comparative frequency of.

The causes of anteflexion are chiefly local; as chronic disease of the bladder, with frequent urination and strangury; stone in the bladder; interstitial tumors in the anterior wall of the uterus; tight-lacing, and the ordinary causes of uterine displacements.

Causes.

The diagnosis is not difficult. The inability to retain the urine without suffering, while the patient is upon her feet, and the relief afforded by lying upon the back, are invariable symptoms. But you are not to mistake this for

Diagnosis.

a daily aggravation, since it is the patient's posture and the consequent change in the relation of the pelvic viscera that produces

Fig. 96. Silver uterine probe.

the symptoms. If she slept in the day and walked about at night, the order of things would be reversed, but the clinical significance of the symptoms would remain the same.

The combined touch, the bladder having been first emptied, is sometimes sufficient to settle the diagnosis; but the introduction of a silver probe like this (Fig. 96) or of the uterine sound will be more thorough and satisfactory.

The touch and the sound in.

Here, as in retro-flexion, the direction of the point of the instrument, and the forward and downward inclination of its curve, toward the bladder and over it, will also indicate the kind and degree of the displacement.

It is not always easy to pass the sound in these cases, and you may have to exercise a little tact in introducing it. I have sometimes succeeded by directing my patient to lie upon her back for some hours, in order that the urine might accumulate, and that the distention of the bladder, together with the effects of gravity, might carry the fundus of the uterus toward the rectum, and so straighten its axis that the sound would pass quite readily. The urine can then be drawn with a catheter, and the displacement identified.

How to pass the sound in extreme cases.

In very rare cases the canal of the cervix may be so blocked or deformed by the presence of a small fibroid opposite the internal os uteri and in front of the cervix, that the ordinary sound will not pass within the uterus. Such a case was sent to our clinic by Dr. Mulholland, of Indiana, last summer (1880). I have already referred to this case (page 92), in which you remember I made use of a Sims' repositor, and passed it readily in place of the sound. There is an advantage in using this instrument as a sound, for when it has been passed, we are ready to lift the organ into place (Fig. 14).

Sim's repositor as a sound.

Case.

The treatment of ante-flexion of the uterus is decidedly influenced by the disabilities of the patient, and by the kind and degree of exercise that she is forced to take. If she can lie upon the back and thus relieve the bladder of pressure upon its fundus, the uterine walls may recover their tone, the organ may lose the habit of careening forwards, and the bladder may become tolerant of its own proper contents. In the milder cases, where the symptoms are worse at the monthly period and almost wholly disappear in the interval, a menstrual quarantine, with keeping the patient constantly upon her back until the flow has ceased will sometimes be sufficient for the cure. This is especially true if we are careful also to select such remedies as are suited for the regulation of the catamenial discharge and for the relief of other incidental symptoms.

Treatment.

When a mechanical support is necessary, in order that the uterus may preserve its own axis, the various stem-pessaries that have already been advised in retro-flexion are equally useful. They may be worn in most cases with impunity, but should not be used if there is endo-metritis, pelvic-peritonitis, or pelvic cellulitis.

Stem pessaries in.

LATERO-FLEXION OF THE UTERUS.

Case.—Mrs.——, aged 51, of nervo-bilious temperament, was admitted to the hospital one month ago. She has been suffering more or less for ten years with uterine difficulties. At forty years of age she was treated locally for ulceration of the os uteri, and cured. She has had three children, the last of which is sixteen years old. She passed the climacteric eight months ago without accident, and attributes her present troubles to having to ascend and descend three flights of stairs at her boarding place last winter.

She complains of pain in the back and a sense of dragging down in the pelvis, profuse vaginal leucorrhœa, and a burning pain in the right inguinal region. The last symptom, however, is not constant. She cannot lie upon her left side. The right leg is at times numb and almost paralyzed. The bowels are tolerably regular, the appetite is not very good, the urine is normal.

Physical examination reveals a right latero-flexion of the womb, the body of the organ being apparently adherent to the right wall of the pelvic cavity. This deviation of the uterus was corrected by means of the sound, which, together with a few doses of nux vomica 3d, promptly relieved the paralytic feeling in the right limb. The patient was ordered to lie on the left or opposite side

and upon the back exclusively. Subsequently she took the citrate of iron and strychnine in the third decimal trituration, a dose every three hours.

Cases of latero-flexion are comparatively rare. Nonat met with it in but one out of three hundred and thirty-nine examples of uterine displacement. As in other flexions of the organ the cervix is but slightly, if at all displaced, while the body is more or less curved upon its neck. The pain and distress are usually referred to one side or the other of the pelvis. The womb inclines more frequently to the right than to the left side, probably because in a majority of cases it has taken that direction during pregnancy. In some of these cases it is possible that the involution of the womb after delivery may be less complete in the right or dependent part of the organ, and that, consequently, its increased weight may cause it to topple over in that direction. Occasionally it is said to follow as a sequel of chronic metritis, and also of constipation with paralysis and a stuffed condition of the rectum. It may occur in a woman who, being confined to her couch, persists in lying day and night, always upon one side of the body. Or it may be displaced laterally by direct pressure from uterine and ovarian tumors, peri-uterine deposits and pelvic abscess.

Relative frequency of.

Causes.

The symptoms are not distinctive. Most patients complain of burning pains in the iliac or the inguinal regions, which pains are severe and protracted, and extend more or less into the corresponding hip and thigh in proportion as the nerves are pressed upon mechanically, and the free distribution of the nervous currents is interfered with. Inability to lie on the opposite or sound side is suggestive, although not by any means pathognomonic of this particular variety of uterine deviation.

Symptoms.

It is only by the introduction of the sound that we can be quite positive in our diagnosis. If, after being passed as far as the internal os uteri, the point shall enter the organ and then travel towards the right or left acetabulum, the concavity of the instrument looking to the corresponding limb of the patient, it is safe to conclude that she has a lateral deviation of the womb. If the direction of the sound is changed

Physical signs.

when she turns over and lies for a little on the opposite side, the displacement is not a very serious affair.

I have now passed the sound to the fundus uteri. You will observe that the roughened surface of the handle, which corresponds to the tip of the instrument, and its anterior curve, looks toward the right thigh of the patient. And although, as I have told you, the sound is of little use as a means of repositing the organ, still, in these cases of lateral displacement, and with proper precautions, it may be of service in this way. While she is lying upon the opposite side therefore, so that gravity may assist us, we gradually turn the sound, and the uterus along with it, until its pelvic curve or concavity looks towards the symphysis pubis.

Passing the sound.

Now the organ is *in situ*, and the sound has served the double purpose of acquainting us with the precise nature of the displacement, and of furnishing us with a means for its reduction.

Repositing the organ.

The treatment of such a case as this is very simple. The first indication, after having put the organ in place again, is to select a proper posture for the patient. Manifestly she should lie on the opposite side, in order to keep the womb from gravitating into its unnatural position. This woman had right latero-flexion, in which the fundus uteri had toppled over against the right side of the pelvis. She must therefore lie upon her left side, if she wants to get well of this difficulty. There will be no harm in her turning upon the back occasionally, but she should not permit herself to lie upon the right side for months to come.

Postural treatment.

This will be a difficult prescription to take. For the first few days especially, it will require some moral courage to carry out these instructions faithfully. She will probably have pain in both hips, aching and unrest, in consequence. She may lose her appetite, pass sleepless nights, and, altogether, feel worse for a time than when she came to the hospital. But ultimately her sufferings will be relieved, and she will be glad of her good resolution.

Need of courage.

These cases are more readily and radically cured than what is known as latero-version, a condition in which the uterus is directly across the vagina, with the fundus at one acetabulum, and the cervix uteri at another.

If the uterus has been flexed laterally for a considerable time, it may be so bound down by unnatural adhesions that its reposition will be followed by more or less of peritoneal inflammation. Again it will be followed by a species of sciatica, which is persistent and troublesome. For the former, such remedies as rhus toxicodendron, belladonna, or bryonia, may be required. For the latter, I know of nothing to compare with colocynth.

Contingent diseases.

VERSIONS OF THE UTERUS.

General Remarks.—The chief characteristic of this kind of displacement consists in the cross-position of the uterus. In confirmed cases of version the womb lies transversely in the pelvis, or if its fundus is very much depressed, it lies diagonally across the vagina. Versions are more serious and difficult of cure than flexions. As a class they are more frequent with those who have borne children, while the opposite is true of flexions of the uterus. Versions are less likely to be accompanied by painful, delayed, and difficult menstruation than are flexions; but the vesical and rectal complications are almost always more marked and inveterate in versions, than they are in flexions of the womb. In many cases the slighter degree of flexions are self limited, and get well spontaneously; but where they persist, the case may develop into a corresponding version, and then become chronic.

Comparison between versions and flexions.

My own idea is that most cases of uterine version really begin with flexion, and that, either in consequence of neglect, or of improper treatment, which is worse, they finally merge into a deviation which involves the neck as well as the body and fundus of the womb, and finish by throwing the whole organ across the pelvis.

Versions as the result of flexions.

Varieties.—There are three kinds of version, which take their name from the direction assumed by the displaced fundus. Thus we have (1) *retro-version*, (2) *ante-version*, and (3) *latero-version*, of which there are the right and the left.

RETRO-VERSION OF THE UTERUS.

In retro-version the fundus uteri is thrown backward against the rectum, and the cervix forward against or upon the bladder,

while the body of the womb lies across the vagina. In extreme cases the fundus may fall upon the coccyx, or the perineum, while the cervix may mount so high that the uterus shall be upside down.

The predisposing causes of retroversion are pregnancy, puerperality, abortion, the abuse of coitus, atony of the rectum, constipation, hæmorrhoids, chronic dysentery, ischuria, obstructive dysmenorrhœa, and certain deformities of the pelvis, more especially if it is too capacious, or

Causes.

Fig. 97. Retro-version of the uterus.

if the promontory of the sacrum projects very far forwards.

The exciting causes are the lifting or carrying of heavy weights, a blow or fall upon the abdomen, jumping, running, a sudden jar from a mistep, or a violent paroxysm of coughing.

The symptoms are more abrupt when this deviation occurs during early pregnancy than at other times, although as in one of our hospital cases it may happen suddenly from lifting a bucket of coal, or of water. In most cases, however, the symptoms come slowly, and gradually. There is pain in the sacral and lumbar region, weight and pressure in the region of the cervix, with epigastric uneasiness and distress. The rectum is more or less irritated by the pressure of the tumor, and there are mucous discharges with more or less tenesmus and ineffectual urging to stool. Sometimes there is a complete obstruction of the rectum, in which case the patient's complexion may soon show the dirty gray tint of copræmia, with a very disagreeable odor of the perspiration.

Symptoms.

The bladder symptoms are usually less marked than in the anterior displacements, but the intimate union between the neck of the uterus and the bladder anteriorly, makes it almost impossible to displace the one without disturbing the other. According to Rigby this form of version may produce engorgement and chronic inflammation of the ovaries. When it occurs in early pregnancy there may be symptoms of a threatening abortion. If it has come on very abruptly, the lower extremities may be partially or wholly paralyzed.

The vesical symptoms in.

The reflex nervous symptoms are very troublesome. Next to the gastric disturbance, which is almost never lacking, the occipital headache, and the pain on the top of the head or about the vertex, is more certain to be present than any other subjective symptom. Hysterical symptoms of every kind and description may depend upon this local cause, and may disappear when it has been removed. The effect of retro-version in the production of morning-sickness during pregnancy has already been considered. (Lecture XIX.)

The nervous symptoms.

The vaginal touch finds the uterus lower down than natural, for confirmed cases of version are almost always complicated with more or less of prolapsus. By the finger, the outline of the body and neck of the womb can be readily felt.

Diagnosis.

The rectal touch is often essential to a correct diagnosis, for in no other way can the nature of this retro-uterine tumor be so thoroughly known. When this form of touch is combined with the skilful use of the sound we shall have something to depend upon as a means of diagnosis. The conjoined touch, through the vagina and the abdominal parietes, may also be used to advantage, especially if the walls of the abdomen are not too thick.

But sounding the uterus in these transverse positions is not always an easy matter, and hence its reposition by internal means is sometimes very difficult. The directions that are usually given for performing this operation, in a bad case of retro-version, are fast becoming as antiquated as the old time details of the mode of reducing a hip-joint dislocation. For the effects of atmospheric pressure and of gravitation are now taken advantage of as an aid, and indeed

The new mode of reduction.

they are often sufficient to lift the organ into place. The expedient of applying atmospheric pressure within the vagina for this purpose, is another result that rightfully dates from the discovery of the Sims' speculum, by the use of which, with the patient in the knee-chest position, it is best applied.

The mode of applying pneumatic vaginal pressure, with gravitation, to the reduction of retro-displacements has been carefully and skilfully elaborated by Dr. Henry F. Campbell, of Augusta, Ga.* The posture chosen is the same that was adopted by Deventer in 1701, in the treatment of prolapse of the funis. The patient is placed upon her knees with the chest thrown forward upon the bed or couch, the hips being raised at an angle of about forty-five degrees. This is what is known as the genu-pectoral, or semi-prone position. The vagina is then expanded, by the introduction of the speculum, the best of which is a Sims', which lifts the perineum and allows the air to fill the passage. The combined effect of gravitation in removing the superincumbent weight of the intestines, and of the steady pressure of the atmosphere, is to raise the fundus and to replace the organ. In most cases this will be sufficient, but exceptionally you may need to apply direct pressure by the finger, or possibly to seize the os with a tenaculum like this, and bring it into position. (Fig. 98.)

How to apply this method.

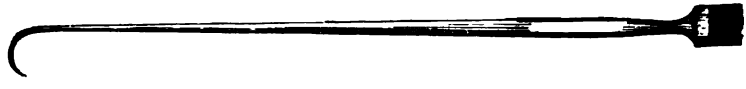


FIG. 98. Uterine tenaculum.

Dr. Campbell recommends a domestic application of this expedient which consists in the frequent resort to this position, and the separation of the labia with the patients own fingers, or by the passage of a small tube. Patients, he says, can be taught to do this at their own homes.

May be used by the patient.

In the reduction of these dislocations Dr. Guernsey's uterine elevator may sometimes be applied through the rectum. (Fig. 99.). It is especially adapted to retro-version occurring in virgins and during pregnancy.

Elevator.

In some cases direct pressure may be applied to the fundus uteri

*Trans. of the American Gynæcological Society, Vol. 1, p. 198.

and the organ lifted forward by Armstrongs' fenestrated elevator, which is a very simple and useful instrument. (Fig. 100.)

FIG. 99. Guernsey's uterine elevator.

In retro-displacements that have been neglected, or mal-treated

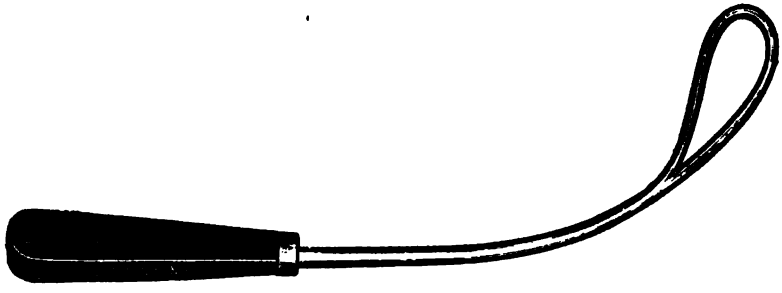


FIG. 100. Armstrong's uterine repositor.

under the theory that their reposition was very difficult if not impossible, because of peritoneal adhesions, there may be so much tenderness and tumefaction as to necessitate some treatment before reducing the dislocation. The best expedient that I have ever found in

Preparatory treatment.

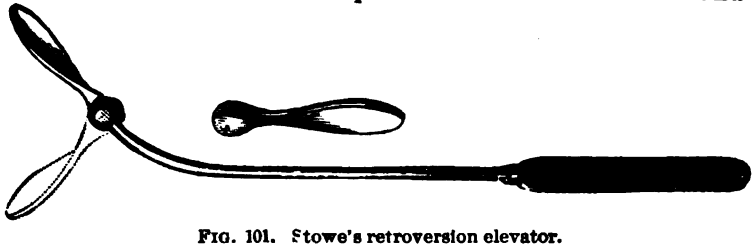


FIG. 101. Stowe's retroversion elevator.

cases of this kind is the frequent and persistent use of hot-water vaginal irrigation. When the swelling is largely in the depressed fundus, I have sometimes directed that the water should be thrown into the rectum through a double-current sound such as you have seen in use in our puerperal wards. In either case the patient should be placed in the prone or the semi-prone position.

In a day or two the effects of mal-position, and the strangulation of the womb will have passed away, after which the organ may be reposited as we have already directed.

FIG. 102. Woodward's retroversion pessary.

The next thing to be done after getting the organ into position is to keep it there. If the mere removal of the weight of the intestines from above the uterus was all that was necessary, and it may be in recent cases, the wearing of an abdominal supporter would be sufficient. But, in chronic and confirmed retro-version the external belt suppliies only one of the conditions that are necessary for retaining the organ *in situ*. Something more will need to be done in order that the body and fundus of the uterus may also be lifted from their unnatural position. This end is secured by the constant dilatation of the vagina which provides for the admission of air, as in the mode of reposition which has just been described.

FIG. 103. Woodward's pessary for retroversion.

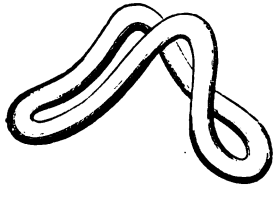


FIG. 104. Graily Hewitt's retroversion pessary.

Such a dilatation is maintained by the various pessaries that have been used for retro-version, the most popular of which owe their reputation to the fact that they keep the vagina on the stretch, instead of to the crutch-like form that has been given them. In one way or another they are all modified from the old ring pessary which was designed to expand the vagina. Hodge's lever pessary Fig. 83.) illustrates the idea exactly, and the same principle is applied to both of Woodward's pessaries (Figs. 102 and 103)

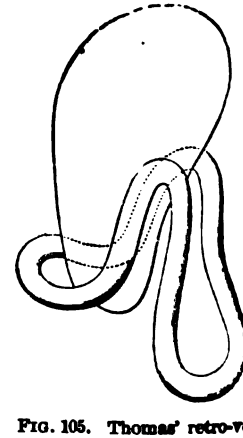


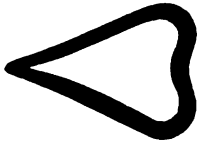
FIG. 105. Thomas' retro-version pessary.

Graily Hewitt's (Fig. 104) and Thomas' (Fig. 105) retro-version pessaries unite the double principle of

leverage and vaginal distension, and are therefore profitable in many cases.

Sometimes we may succeed in keeping the organ in position by placing a tampon or other instrument in the posterior cul-de-sac. For this purpose a Buttle's pessary (Fig. 106) may answer, especially if there is a coincident prolapsus. Thomas' modification of Cutter's pessary for retro-version (Fig. 107) puts a crutch behind the organ and keeps it forward. In a few cases, however, I have found that Cutters' original pessary for retro-version (Fig. 26) could be worn when Thomas' modification of it could not.

FIG. 106. Buttle's pessary.



Internal remedies.

Concerning the medical treatment, if the trouble began in the rectum, and its chief symptom are dependent upon rectal paralysis, chronis constipation, or hæmorrhoids, collinsonia can. in the second or the third dilution is often an invaluable remedy. It will not correct the retro-displacement, but it will do away with many of

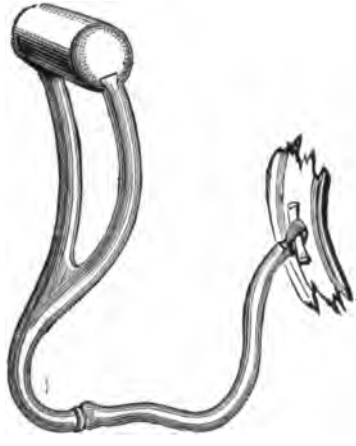


FIG. 107. Thomas' Cutter's pessary.

the most troublesome rectal symptoms that are connected with it. Other remedies that may be especially indicated are nux

vomica, podophyllin, alumina, aloes, hamamelis, calcarea carbonica.

The treatment proper for retro-version during pregnancy has already been given in Lecture XIX.

ANTE-VERSION OF THE UTERUS.

This drawing (Fig. 108) will give you a good idea of the relative position of the uterus when its fundus is thrown forward upon the bladder, and its cervix upwards against the rectum, the axis of the organ being across the pelvis.

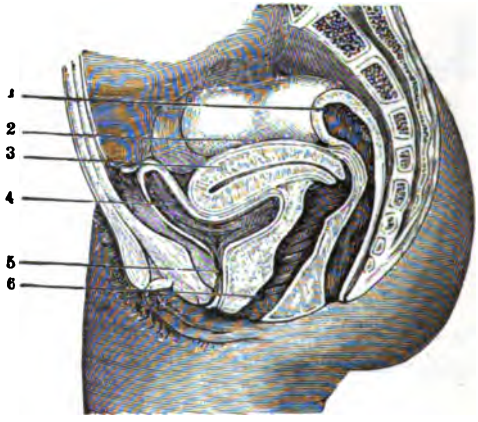


FIG. 108. Ante-version of the uterus. 1. the rectum. 2. do. lying upon the uterus. 3. The fundus uteri. 4. the bladder 5. the urethra. 6. the vagina.

Observe that the bladder is almost inverted, that the rectum is partially obliterated, and that the vagina is put upon the stretch. When the uterus is also prolapsed, its fundus may press the urethra firmly against the pubis. The greater the degree of this transverse displacement, the greater the acquired deformity of each and all of these pelvic viscera. Consequently the functional derangement of the bladder, and of the rectum especially, will vary in a corresponding ratio. They will also become chronic if the duration is permanent.

Ante-version is less frequently met with than ante-flexion. The chief complaint is of symptoms that resemble those of cystitis, for which, indeed, it is often mistaken. Naturally enough the vesical symptoms are worse when the patient is standing or walking, and sometimes there is such an absolute inability to walk, or to stand, that those who have

Symptoms.

ante-version become bed-ridden. Owing to the partial obliteration of the bladder, its capacity is so diminished that only a small quantity of urine can be retained within it, and this causes a very frequent and painful urination.

The rectal symptoms are not always present. In bad cases the cervix may retreat so far into the hollow of the sacrum as to obstruct the passage of fæcal matter and occasion tenesmus, and diarrhœic or dysenteric symptoms. If there is any difference between ante-version and retro-version in so far as these peculiar symptoms are concerned, it is that, while in the former, lying on the back mitigates the tenesmus, or the constipation, it is not so in retro-version.

Courty says: "With several patients who had retro-version it has seemed to me that, whether applied with the hand, temporarily, or constantly with the abdominal belt, pressure upon the hypogastrium tended to increase instead of to lessen the suffering; while the contrary was the rule in ante-version." *

Diagnosis.

Beside the subjective symptoms, the physical signs are also important and essential to a correct diagnosis. The touch applied along the sides of the uterus, the remoteness of the cervix, its being carried in the direction of what the old doctor called the "premonitory" of the sacrum, will help us to decide the question. If to this we add the conjoined palpation, through the vagina and around the symphysis pubis, the case may almost always be clearly made out. Even the rectal touch has a negative value when the fundus uteri cannot be found posteriorly. When the sound or the probe can be passed, the direction of its point and curve will be almost if not quite as distinctive as in ante-flexion; and the effect of the dorsal decubitus with the hips raised will assist in the differentiation.

Physical signs of.

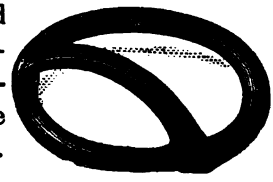


FIG. 109. Hitchcock's ante-version pessary.

The reposition of the organ is facilitated by keeping the patient on her back and thus permitting the bladder to become filled, after which the hips may be raised so high as to bring gravity to our aid. At the same time the air may be admitted into the vagina by lifting its

Reduction of the displacement.

*Traite Pratique des Maladies de l'Uterus. des Ovaries et des Trompes, par A. Courty. Professor, etc., deuxienne Edition. Paris 1872. page 863.

anterior wall with a Sims' speculum, or with the depressor. With this exception the directions that I have given you for the correction of retro-displacements apply also to this form of version.

There is a form of Cutter's fenestrated pessary which is suited to ante-version. Beside that, there are modifications of the ring, and of Hodge's pessary, which are suited to these cases, more especially because they serve the purpose of separating the vaginal walls so as to secure the admission of air. Among them are Hitchcock's (Fig. 109), and Kinlock's (Fig. 110), ante-version pessaries.

Means of support.

FIG. 110. Kinlock's ante-version pessary.

Abdominal supporters are more useful in ante-version than in retro-version. The dorsal position, at least for a portion of the time, is almost indispensable for the cure of these cases, some of which are very much benefitted by cultivating the habit of retaining the urine for a few hours at a time. The incidental symptoms may require to be relieved by internal remedies such as cantharis, belladonna, mercurius, hyoscyamus, digitalis, nux vomica, and terebinth.

Rest and remedies in.

LATERO-VERSION OF THE UTERUS.

This form of uterine version which is exceedingly rare is almost always due to a fall upon one hip or the other, to lesions that have been acquired during the lying-in, or to the presence of tumors or of dropsical and other accumulations which force the womb out of place. This version is also characterized by a transverse position of the uterus, but, instead of lying across the pelvis in an antero-posterior direction, the fundus is at one acetabulum and the cervix at the other.

Peculiarities of.

The subjective symptoms are not characteristic. The chief complaint is of neuralgic pains which are persistent, which radiate through the pelvis and the abdomen, and which are likely to affect the sacral nerves in their distribution to the lower extremities. The vesical and rectal symptoms are incidental and not constant.

Subjective symptoms.

The physical diagnosis is practised in the same manner as for

other forms of version. The touch, conjoined manipulation, palpation by the rectum, and the use of the sound are the means at our command.

Physical signs.

The treatment does not differ essentially from that of the other varieties of version. The uterus is to be restored to its proper position by a similar means. There are no instruments which are of practical use in this form of latero-displacement, and we are obliged to depend upon the postural treatment rather than upon pessaries or supports of any kind.

Treatment.

An essential part of the treatment consists in recognizing and removing the cause of the difficulty. If it is traumatic the internal use of arnica, hypericum, or rhus tox. may be required. If it is post-puerperal there may be lesions of the pelvic, serous or cellular tissue that will need to be treated. If it depends upon the presence of tumors in the broad ligament, the ovary, the bladder, the rectum, or even the bony pelvis, these tumors will require special treatment before the version itself can be cured.

INVERSION OF THE UTERUS.

In this form of displacement the uterus is partially or wholly turned inside out. In the slighter degree the fundus is dimpled,

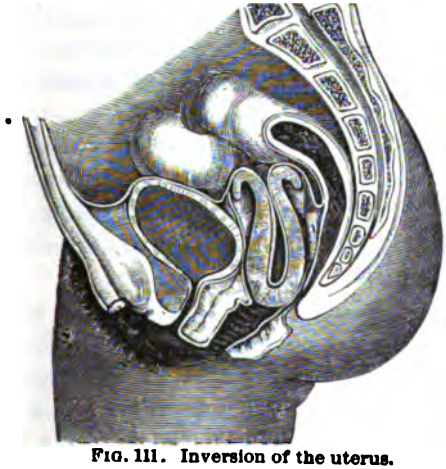


FIG. 111. Inversion of the uterus.

indented, or depressed toward the cervix. The inversion may be complete even before the tumor is expelled from the vagina. This condition is shown in the diagram. (Fig. 111.)

In the chronic form, apart from the puerperal state, the inverted organ is more apt to be extruded from the vulva.

The predisposing causes of inversion are childbirth, and the development and distension of the uterus by contained tumors and fluids. The exciting causes are traction on the placenta or the umbilical cord; rapid labors; rigidity of the uterine cervix with a laxity of the muscular fibres of the body and fundus; the artificial extraction of the child in case of uterine inertia, and the dragging effect of fibrous growths and polypi when they are attached to the fundal zone of the uterus. When inversion follows labor it may happen immediately, even before the placenta has been detached, or it may occur as late as the tenth day. Although the gynæcologist does not always see these cases in the acute stage, yet 75 per cent of them date from delivery; and 20 per cent are due to the traction of intra-uterine fibroids and sessile polypi.

Causes.

The symptoms vary with the stage and the more or less recent occurrence of the accident. If it has happened very recently they will be more alarming and dangerous on account of the hæmorrhage, the shock, and the accompanying depression and collapse. In chronic cases, the patient complains of uneasiness and distress, with a feeling of pelvic strangulation that arises from the presence of the tumor. The same cause may produce a tenesmus of the rectum and of the bladder, with sacral and lumbar pains, all of which are very much increased by standing or walking.

Symptoms.

Another symptom is the occurrence of a hæmorrhage from the surface of the tumor, which is periodical, and menstrual in character. This hæmorrhage is prevented from being very copious, at least in chronic cases, by the contraction of the cervix, which acts as a tourniquet upon the tumor.

The tumor is a globular mass, that is more or less soft and flabby to the touch, abraided from exposure, which causes a mucopurulent leucorrhœa, and is largest at its lower extremity. Its size varies with the completeness of the inversion, and with the nearness to the lying-in period. For the inverted uterus may be carried outside of the body for twenty years or more. The tolerance of this unnatural condition is greatest after the menopause. In very rare cases there is a spontaneous reduction of the displacement.

The tumor.

In a recent case, where the placenta is still adherent, the diagnosis will be plain enough. But when months or years have elapsed since the inversion took place, great care will be required. You would know such a case from one of procidentia, by failure to find the os-uteri, and one or both lips of the cervix at the lower end of the tumor; and by the inability to pass the sound, as you have seen me do it, in procidentia.

Diagnosis.

From procidentia.

The diagnosis of partial inversion from a case of sub-mucous fibroid, is sometimes very difficult. The sound in utero gives precisely the same indications, and the diagnosis must therefore be made by the conjoined manipulation. By this means we may recognize the rotundity of the uterus in the case of a fibroid, and the dimpled, or invaginated fundus if there is a partial inversion of the uterus. You may remember also that while the uterine surface of a tumor is sensitive, you may pinch, or push a needle into a polypus or a fibroid without causing pain.

From a sub-mucous fibroid.

The most absolute test for inversion is the same that is applied in the case of absence of the uterus, *id est* the passage of the sound into the bladder, with its point looking backwards, and of the finger, or a large bougie into the rectum. If these two meet readily, the inference is that the womb is absent, the same as if it were congenitally lacking.

The crucial test for.

The greatest care should be exercised in the diagnosis for it has happened that the inverted womb has been amputated, under the supposition that it was a polypus or a fibroid.

The prognosis varies with the acuteness of the case, the possibility of the immediate reduction of the tumor, the degree of the hæmorrhage and the anæmia, the severity of the shock, the lax and diseased condition of the uterine parietes, the sloughing and the risks that attend upon all forcible attempts at re-inversion. When the displacement has become chronic and developed a cachexia with a low vitality of the tissues and an impoverished state of the blood, it will not be safe to promise a cure, even although we may succeed in repositing the womb.

Prognosis.

The treatment for this form of displacement is beset with peculiar difficulties. The first indication is to reduce, or to re-invert

the organ by forcing its body and fundus through the constricted cervix. If the tumor is large from age or exposure, and the utero-cervical orifice is narrow, as it almost always is, this operation may be impracticable. For it is this orifice, which Mauriceau compared to the neck of a phial, that interferes with the ready replacement of the womb, and the constriction of which it is sometimes quite impossible to overcome.

Treatment.

In recent cases of inversion occurring in obstetric practice, the parts are in such a condition that prompt and immediate action will generally be successful. If the placenta remains attached, strip it off carefully, and then apply steady pressure with the tumor in one hand, while the other hand is placed for counter-pressure above the symphysis pubis. Be careful, however, to begin the inversion about the neck of the organ before you indent the fundus. You will find some very interesting and instructive cases of this kind reported by Dr. L. M. Pratt, of Albany, *; Dr. A. R. Thomas, of Philadelphia, †; Dr. Mary Safford Blake, ‡; and Dr. C. G. Higbee, of St. Paul, Minn., §.

In acute cases.

When inversion follows abortion, which is very rare, and of very doubtful diagnosis, the reduction is usually spontaneous. But in confirmed cases of inversion that have existed for months or years, nature is not disposed to aid the re-inversion.

After abortion.

Taxis and vaginal pressure are the principal means for reducing the dislocation, and since a too forcible manipulation by the hand may result in a laceration of the soft parts, especially if it is continued for a long time, elastic pressure by a rubber pessary may be alternated with it. But before the attempt is made to replace the organ the bowel and the bladder should first be emptied. If the uterus is still within the vagina, it may be well to apply hot-water injections as a preparatory means. Anæsthesia is necessary for the relief of pain and for the relaxation of the soft parts, more especially of the cervical ring.

Manual treatment

A gradual replacement is safer than a rapid one, and the manual

*. Trans. of the New York. Hom. Med. Society, New Series. Vol. 1, p 353.
†. Trans. of the American Institute of Homœopathy, Twenty-fifth session, 1872, p. 385.
‡. Do. do. do. do. for 1873, page 508.
§. The United States Med. and Surg. Journal. Vol. IV. p. 216.

method, with proper precautions, is better than the instrumental one. In the attempt at reduction by the hand, two indications must be kept in mind; (1) to dilate the contracted ring of the cervix by counter-pressure through the abdominal parietes, and (2) by steady and continuous pressure to force the inverted fundus through it.

Dr. Tate's vesico-rectal method.

In Dr. Tait's method the first of these indications is met by the introduction of the index finger of the left hand into the bladder, and the index of the other hand into the rectum. Then the fingers approach each other and are in position to stretch the cervical ring, while both thumbs are made to press the fundus upwards and towards the cervix. The possible success of this method is shown by the fact that Dr. T. reduced a case of inversion of forty years standing, in the space of half an hour. Once begun the reduction was finished by pushing up the fundus with a tallow candle that was wrapped in a rag. The external os was closed by a silver suture, which was removed on the third day, and the patient recovered without a bad symptom*

Courty's rectal method.

Courty's method consists in first drawing the uterus outside of the vulva, if it is not already there, in passing the index and medius of the right hand into the rectum, and above the uterus, and then by curving the fingers forward using them to dilate the cervical orifice. The body of the organ is then seized by the left hand, pushed into the vagina and moved in different directions so as to facilitate its re-inversion, the thumb and the index being pressed upon the pedicle of the tumor. It would be well to try this plan before dilating the urethra and operating through the bladder, as practised by Dr. Tait. Dr. Watt's method is really the same as Courty's

Noeggerath's method.

Another means of manual reduction is known as Noeggerath's, which consists in the usual counter-pressure over the pubis, and in direct pressure upon the cornua of the uterus with the finger and thumb until the indentation has begun, first in one corner, and then in the other, after which the center of the fundus is depressed, and the re-inversion is completed. If the patient is a thin person the coun-

*The Cincinnati Lancet and Observer for March 1878.

ter-pressure, according to Dr. Thomas, may be made to reach the cervical ring through the abdominal parietes.

But you are not to suppose that the trouble is over when a portion or even the whole of the body of the uterus has passed through the internal os; for it may be quite as difficult to finish the replacement as it has been to carry it thus far. Unless the operation has been a very rapid one, the anæsthetic will need to be withdrawn, and for the present, at least, it may be necessary to relinquish any further attempt at reduction. In this case Dr. Emmet advises to stitch the os uteri with a silver suture as a temporary expedient. If it is possible, however, the re-inversion should be completed at once by pushing up the fundus with a stick of hard

Emmet's expedient.

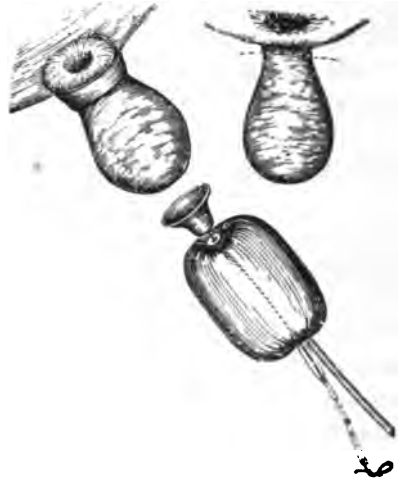


FIG. 112. Mode of re-inversion in Dr. Ellis' case.

rubber or of wood, or even with a tallow candle if you can find one. Drs. Sims and Barnes have advised that, where the cervical orifice will not yield and the reduction is otherwise impracticable, an incision may be made upon each side of the cervix. This expedient is seldom necessary.

Sim's and Barnes' method.

Vaginal elastic pressure in aid of the re-inversion may be steadily and constantly applied by means of air pessaries, and water bags, or by cups that are mounted upon a stem. These may be kept in place by a T bandage. A very interesting case of inversion was

reported to one of our journals some years ago, by Dr. E. R. Ellis, of Detroit. The case was of eight months duration, and in reducing it utero-vaginal pressure was continued at intervals for the space of nineteen days, by this instrument. (Fig. 112.)

The mode of applying vaginal pressure that is most popular just now is known as that of Dr. J. P. White, of Buffalo. It is simple, rapid, efficacious, and quite safe, if properly used. A glance at the repositor, and at the accompanying cut, will explain its *modus operandi.* (Fig 113)

Dr. White's method.

FIG. 113. White's repositor for inversion.

In all cases in which an attempt is made at immediate instrumental reduction the effort, if unsuccessful at first, should not be continued for more than one or two hours, otherwise fatal peritonitis or cellulitis may result. Nor should it be repeated in less than thirty-six to forty-eight hours afterwards. Several fatal cases are recorded in which this rule was not followed.

Precautions.

Where judicious taxis and elastic pressure have failed and it becomes a question whether the uterus should be amputated, Prof. Thomas' method of opening the cervical ring so as to reposit the organs should be carefully considered. This method, which is one of the

Dr. Thomas' method.

boldest achievements of American surgery, consists "in abdominal section over the cervical ring, dilatation with a steel instrument, made like a glove-stretcher, and reposition of the inverted uterus by any one of the methods mentioned, by the hand in the vagina."

Amputation has been practised as a *dernier ressort*, but it is a very dangerous one, from risk of hæmorrhage. Perhaps the safest method is that of Courty, who surrounds the neck of the organ with a rubber ligature, that may be tightened on the second day, and which secures a complete separation of the womb in a fortnight or less. When the knife or the écraseur are used, the tumor should first be ligated for two or three days. The galvano-cautery is objectionable on account of the danger from secondary hæmorrhage.

Amputation.

SURGICAL OPERATIONS FOR RETRO-DISPLACEMENTS.

Alexander's operation consists in making an incision of from one and a half to three inches along the inguinal canal, down upon the external abdominal ring, freeing the round ligaments and drawing them out through the wound. The fundus uteri is then lifted forward into position, a "run" is taken in the ligaments after which they are cut off and stitched into the wound by the sutures that close the incision. Drainage, keeping the uterus in situ by a galvanic stem, and rest, are requisites to success. The author insists that the difficulty of finding these ligaments can only be avoided by experiments on the cadaver.

Alexander's operation.

Hysterorrhaphy, which was first practised by Kœberlé in 1869,* is being perfected in its technique and promises excellent results in unconquerable cases of retroflexion and of prolapsus. Its steps include laparotomy, the reposition of the uterus, the removal of one or both ovaries (if necessary), and in so stitching the womb as that its fundus shall lie against and become adherent to the abdominal parietes.

Hysterorrhaphy.

*Archives de Tocologie, etc., Paris, 1877, page 543.

LECTURE XL.

ULCERATION OF THE WOMB.

General observations on uterine ulceration. Varieties of. Simple ulcer of the uterine cervix. Aphthous ulceration of the os and cervix uteri. Irritable ulcer of the uterine cervix. Diphtheritic ulceration of the os uteri. Post-partum ulceration of the womb.

General observations.—The subject of uterine ulceration has acquired a new interest of late. A few years ago ulceration, with or without induration of the cervix, was generally thought to be the essential and fundamental lesion in most of the diseases of women. For thirty years, indeed, this idea dominated, and the practice was to rely upon local treatment, exclusively. But, now that we can differentiate more closely, we know that ulceration of the cervix uteri is really infrequent, and that the appliances of the Bennet school of gynæcologists were often brought to bear upon a lesion which had no existence until it was induced by the treatment.

Influence of modern views on ulceration.

It is pleasant to think that such a result has been brought about by clinical, painstaking, study and experience; and that henceforth the poor women are to be spared the suffering and the harm that have been unwittingly and unnecessarily inflicted upon the sex for a whole generation.

Uterine ulceration may be a local or a constitutional disease. The forms of this ulceration that are purely local are abrasion with simple and irritable ulceration. The constitutional varieties include the aphthous, the scrofulous, the varicose, the diphtheritic, the syphilitic, and the cancerous form. The special pathology of each and all of them is very important not only in a diagnostic, but also in a curative point of view. We shall consider some of them separately, reserving to a future occasion what we have to say of cancerous ulceration.

Varieties.

SIMPLE ULCER OF THE UTERINE CERVIX.

Case.—Mrs. T——, aged 28, mother of one child, has been ill for six months. She complains of weakness and debility, which incapacitate her for her daily duties. There is a great deal of pain in the sacral region, dragging in the loins, and bearing-down sensations when she is upon her feet for any considerable time. Internally she feels a sense of swelling and fullness within the vagina, and of burning at its upper portion. At times there is quite a free leucorrhœal flow, which is of a bland unirritating character. Examination with the speculum reveals a simple ulcer of the size of my thumb nail, situated chiefly on the posterior lip of the os uteri, and extending within the orifice.

Subjective symptoms.

The subjective symptoms of this, as of most other varieties of uterine ulceration, are not peculiar. The patient may complain of pain in the sacrum, the hips, the thighs, the coccyx, the symphysis pubis, the hypogastric, or the ovarian regions. There is a sense of weight and fullness, of weakness and bearing-down in the region of the womb. She has, perhaps, great lassitude, with an almost insuperable dislike of mental and physical exertion. Leucorrhœa and painful menstruation are frequent and troublesome concomitants. In some cases, as in this one, there is a sense of tumefaction, and of local heat in the parts affected. This symptom is especially tormenting after the menstrual discharge has ceased, and also after coitus. Not unfrequently there is an aversion to sexual congress, and when complicated with vaginitis, the act is likely to be followed by a bloody discharge. The reflex hysterical symptoms are numerous and varied. Such patients are prone to be hypochondriacal, and sometimes exhibit strong tendencies towards insanity.

Objective local symptoms.

The objective local symptoms revealed by the "touch" and the uterine speculum are peculiar, and we must rely upon them as diagnostic. The ulcer, the shape of which is irregularly circular, may occupy one or both lips of the cervix, although the posterior lip is its most frequent seat. For this latter reason the slightly curved speculum is sometimes preferable in making an examination. The lesion sometimes extends within the os and along the cervical canal. On removing the accumulated secretion from the

orifice with a pair of long dressing-forceps and a bit of charpie or cotton, and expanding the bi-valve speculum, if you use it, the ulcer is freely exposed. There is necessity for care in all these manipulations of the cervix, on account of the extreme delicacy of the structure implicated. This ulcer within the os and the canal of the cervix is sometimes the last and most difficult part to heal. Indeed it often happens that such cases are dismissed as cured, when only the mucous membrane exterior to the orifice has been healed.

Appearance of.

The simple ulcer is superficial, not excavated, and its margins may be irregular, wavy or stellated. In some cases its borders are slightly raised and cord-like to the "touch." The color is usually scarlet, evincing a remarkable degree of vascularity. Sometimes however, it is of a dark or dusky-red hue, resembling erysipelas. This blush may extend beyond the border of the ulcer itself. The more protracted the case, the darker and more livid the complexion of the ulcer. The surface is almost always covered with a muco-purulent secretion, which must be wiped off carefully.

In an acute case the part looks as if a corresponding extent of its investing epithelium had been stripped off. Sometimes there is a simple erosion, which Kennedy has compared to excoriations of the glans penis, and to aphthous ulcers in stomatitis. The cervix is swollen, congested and sensitive. When the lesion has existed for a considerable time, it has a suppurating surface, and it becomes the source of an intractable and exhausting leucorrhœa. At this stage the simple ulcer may degenerate into the fungous, or granular variety, of which we shall have more to say hereafter.

Causes.

The most common causes are painful, forcible and too frequent intercourse; coitus during or directly after menstruation, while the utero-vaginal mucous membrane is very vascular and sensitive to mechanical injury; disproportion in length between the male organ and the vagina; the injudicious use of astringent and harmful injections per vaginam; cold; insufficient clothing of the inferior extremities; vaginitis; and friction of the parts from walking when the uterus is prolapsed upon the perineum, are among the more frequent causes of simple ulceration of the os and cervix uteri. Tyler

Smith is of opinion that the corrosive properties of the leucorrhœal discharge may occasion this form of ulceration, when brought into contact with the surface.

This form of uterine ulceration is especially apt to occur soon after marriage; or it may be caused by too prolonged nursing. According to eminent authorities, among whom are Churchill, Bennett and Whitehead, it may result in abortion and sterility.

The treatment proper for this variety of ulceration is constistitutional and local. The internal remedies most frequently indicated are, arsenicum alb., arsenicum jod., nitric acid, belladonna, arnica, ignatia, aurum mur., nux vomica, sepia, and sulphur. Incidental complications, of course, require intercurrent and appropriate remedies.

Treatment.

The local treatment should be as soothing as possible. The principal indication in most cases is to prevent the contact of the vaginal mucus and of the leucorrhœal discharge, and so to protect the denuded surface from the influence of atmospheric air as to facilitate the reproduction of the proper epithelial tissue. If the ulceration is of traumatic origin, you may prescribe vaginal injections of dilute arnica with glycerine. If the leucorrhœa is purulent, or muco-purulent, it may be better to substitute calendula for the arnica. Other topical expedients are injections of an infusion of flax-seed, or of dilute glycerine, which does not become rancid; the direct application to the ulcer of a watery solution of gum tragacanth, or of a solution of loaf-sugar; painting the ulcer with collodion, or with glyceroles of iodine, hydrastin or aloes. Latour's oleaginous collodion is preferable to the ordinary collodion, because it does not cause pain by its shrinking.

Topical treatment.

This last preparation has other merits which commend it as an external application in abrasion and in superficial ulceration of the cervix. It is flexible and water-proof, like a thin layer, or pellicle of india-rubber, and hence it protects the surface that it covers from contact with the uterine and vaginal secretions. Before applying it with the cotton brush the surface of the ulcer should be dried very carefully. The coating that forms will remain for from two to five days. Here is the formula for its preparation:

℞ Ether sulph., grammes 400.
Alcohol, " 100.
Gun-cotton, " 35.
Ol. Ricini, " 35.
Mix the three first ingredients thoroughly, and when dissolved, add the castor oil.

APHTHOUS ULCERATION OF THE OS AND CERVIX UTERI.

Before showing you an interesting case of apthous ulceration of the uterine cervix, I must remind you that this is really and most decidedly, a constitutional affection; and that it is not marked by any subjective symptoms which are peculiar or valuable, in so far as the differential diagnosis and the treatment are concerned. Without a local inspection of the lesion, its recognition would be as impossible as it would be to identify the eruption of scarlatina without seeing it; nor could we know what we have cured, if we are successful, without a careful visual examination of the cervix to begin with. For this is a local affection of constitutional origin.

Case.—Mrs. S——, forty years of age, the mother of four children, has been ill for eighteen months past. She is pale, and has the worn look of one whose strength has been exhausted either by a drain of the vital fluids, or from inanition. She has a slight leucorrhœa, but the discharge bears no relation to the month, and from her description appears to be exclusively vaginal. There is at times much burning in the vagina, and at the neck of the womb. This is aggravated by standing a long time, or by riding. It is also apt to be worse in the evening. Sometimes there is strangury, but it is of brief duration and not very severe. There is not a great deal of inter-pelvic pain and distress. Her appetite is poor and capricious. Her food "does not appear to do her any good." Her nervous system is shattered. She cannot sleep, is exceedingly anxious about her children, and, in short, "nothing goes right any more." On examination the vagina is found to be considerably inflamed, hot and dry, and the anterior lip of the uterine cervix to be the seat of an aphthous ulcer, which is twice the size of the thumb nail. The only treatment she has had was a four months' course of bi-weekly cauterizations, from which her health became so bad that she was obliged to stop taking them.

The eruptive stage.

This form of uterine ulceration begins with a slight vesicular, or herpetic eruption, which is located upon the cervix. The vesicles, which are as delicate as those of varicella, soon burst, the epithelium becomes detached, and small curd-like spots appear. With a pencil-brush these spots can be easily removed, and the denuded surface remains a *bona fide* ulcer. If a number of these vesicles coalesce,

they finally develop into an extensive patch of ulceration. Sometimes the ulcers are small, yellow and of regular outline; again they are much larger, with an inflamed base and an irregular ragged outline. Now and then the serum discharged from the vesicles is so acrid and excoriating as to inoculate the neighboring surfaces.

The chief characteristics of the aphthous ulcer, however, are its shallowness, its being preceded and accompanied usually by the herpetic eruption on the cervix uteri, and the repeated attempts and failures to reproduce the proper investing epithelium. The surface of this ulcer, as seen through the speculum, is half concealed beneath an abnormal investiture, which is constantly being exfoliated and reproduced. In this respect it resembles the aphthous ulcer of stomatitis, and like it, is an evidence of a depraved state of nutrition, a kind of scorbutic cachexia.

Symptoms.

The diagnosis is very important, for it has very much to do with the treatment and conduct of the case. The only forms of uterine ulceration with which this is liable to be confounded are the diphtheritic and the syphilitic. From the diphtheritic ulcer it may be known by the delicate and imperfectly organized structure of the membrane that covers the ulcer, which in respect of its color and thickness, is very different from the wash-leather deposit in diphtheria. The attendant constitutional symptoms are much more grave in diphtheria than in an ordinary case of aphthous ulceration.

Diagnosis.

The syphilitic ulcer is of a dark, red hue, and never bright or yellow, and the general constitutional symptoms are wholly different from those which are incident to the aphthous form of uterine ulceration.

The principal causes of this disease are defective nutrition, an impoverished state of the blood, chlorosis, tabes mesenterica, chronic gastritis or gastro-enteritis, and the exhausting processes of gestation and lactation.

Causes.

The treatment is very simple, and if properly chosen, very successful. Much depends upon the correct diagnosis of the difficulty. Such cases are sometimes cured unwittingly, and neither the doctor nor the patient knows what has been done. More frequently, however, they are made

Treatment.

worse by the treatment adopted. This result may often be ascribed to the fact that physicians do not always discriminate as to the particular variety of ulceration with which they have to deal, and that the means chosen are inappropriate, too harsh, and therefore harmful. It is not at all unusual for the simplest cases of this kind to run along for months, and finally, for them to be nearly or quite sacrificed upon the altar of a promiscuous cauterization.

Let me tell you, gentlemen, that in the whole range of our art, I do not know of any temptation to compare with that which sometimes prompts and permits the physician to diagnosticate and to pretend to cure the most serious uterine diseases when they have no real existence. Patients not unfrequently declare themselves ill with some particular "weakness," and, whether they are mistaken or not, will insist upon being treated therefor, either at our hands or by another. The fashion is to gratify them, and to put a premium upon every kind of local expedient especially.

Thousands of women have thus been cauterized for uterine ulceration which, before the application of the escharotic, had no existence. Multitudes of them have done penance by wearing pessaries, and supporters of every description for luxations of the womb that could not be found, except in their own imagination, or in that of the physician. They have been bed-ridden and abused until the weakness of the sex has become a by-word and a reproach, mainly because the doctors have been too anxious to "make out a case;" and afterwards, because they have seen fit to persecute them with the most harmful appliances.

Reprehensible practice.

The doctor who treats a broken leg or a case of small-pox must be skilled in diagnosis, and measurably honest. His selfishness may prompt him to make his patients as many visits as possible, and to extort a fabulous fee for his services; but, concerning the nature of the accident, or of the ailment in question, there is little relative opportunity for him to deceive the sufferer or the friends. But when he is consulted in the case of a woman who is supposed to be ill with a sexual infirmity, the conditions are changed. He makes his diagnosis in the dark, as it were, and who shall disprove it? His professional opinion is not open to criticism, nor his skill to a healthful competition. And hence the peculiar temptation, in this department of our calling, to those members

of the profession who have a bias towards dishonesty, and who seize upon every opportunity to make the most out of a class of cases which are often obscure, intricate and tedious at the best.

Bennett and a host of lesser lights have decreed the uterine cervix to be the center of pathological interest in woman. Too many physicians make it the focus of pecuniary interest, and therefore punish it through personal cupidity and a lack of conscience, as well as of knowledge.

Here is a poor woman whose local disease is the sign and seal of a constitutional cachexy. She is ill from her head to her feet. Her whole organism is deranged. A few little vesicles were developed upon the neck of her womb. Their investing tunic was ruptured, and an aphthous ulcer was the consequence. That ulceration has perpetuated itself, because the general condition from which it came has not been cured. A moment's reflection will satisfy you that cauterization is contra-indicated. For even if its effect were locally beneficial, and not injurious, it could do no good in a general way. The cause would remain, and the consequence would repeat itself.

A constitutional and not merely a local disease.

A more skillful, and successful method of cure in these cases, is to set about correcting the vitiated condition of the system, precisely as you would in a case of stomatitis materna. You may order a diet consisting chiefly of the nitrogenous principles. Beef, in the form of steak or broths, oyster-soup, the whites of eggs, and milk, are preferable. To correct the strumous habit, the vegetable acids are also necessary. Baked apples, peaches, grapes, oranges, or lemonade, are almost always grateful, and, I believe, useful in such cases. Where patients have foresworn tea and coffee, I have sometimes prescribed that they should resume their use, with a view to arrest the too rapid metamorphosis of tissue which is going on.

Improve the general health.

For the first or vesicular stage of this disorder, and in old cases where a new crop of vesicles appear from time to time, cantharis, rhus tox., or aurum muriaticum, are usually sufficient.

For the vesicular stage.

If there is also an aphthous condition of the mouth and of the alimentary mucous membrane, you may find it necessary to prescribe arsenicum alb., hydrastin, nux vomica, belladonna, mercurius jod., or the nitric or sulphuric acid.

For the aphthous condition.

Locally, I think it a good plan, in this form of uterine ulceration especially, to use the same remedy that is administered internally. It can be applied with water, or glycerine, or both these substances as a vehicle. A very simple and available injection consists of adding a tablespoonful of glycerine to as much castile suds as will be needed for one application. In addition to the medicines already named, the coptis trifolia, borax, kali bichromatum, and of late years, the carbolic acid in weak solution, deserve to be mentioned in this connection. If the suppuration is very considerable, as it sometimes is, calendula injections may be used with advantage. Where there is chronic vaginitis, with profuse leucorrhœa, and desquamation of the vaginal epithelium, whatever variety of injection is chosen, may be brought in contact with the entire mucous membrane of that canal through such an instrument as this, which is a cylindrical speculum, that is perforated with numerous holes of the size of a large shot. For the herpetic form of this disease, Leadam recommends the injection of a weak solution of the thuja oc., to be repeated two or three times daily.

Local treatment.

The objection to the topical use of astringents, as for example, tannic acid, alum, and the acetate of lead, in cases of this kind is that they do not possess any especial and specifically curative relation to the disease itself; and also that they are extremely liable to cause such a modification of the circulation as shall tend to involve the menstrual function, and thereby to complicate the case.

Objections to astringents, etc.

We will give Mrs. S—— arsenicum alb. 3, a dose three times daily. Her diet will consist of bread and milk with beef, potatoes and tomatoes, for dinner. Once each day she will drink a glass of good fresh lemonade; and she will not let the day pass without going to walk or ride a little in the open air. She will also use the injection of castile suds and glycerine every night and morning.*

Prescription.

*In four weeks this patient was well. She took no other remedies.

IRRITABLE ULCER OF THE UTERINE CERVIX.

This form of ulceration is most frequently of local origin. It is is often chargable to maceration of the cervix in the utero-vaginal discharges, to the wearing of ill-adjusted pessaries, and to an excess of local treatment. For, much as they are imposed upon and persecuted, the cervical structures do sometimes resent such treatment, and take on an irritable state which is characterized by an excess of vascularity and sometimes by exuberant granulations. When this condition becomes chronic, there will be trouble elsewhere.

Case.— Mrs. B——, aged 40, has been ill for two months past. All her sufferings are referred to the epigastric region. She is subject to cramp-like pains in the pit of the stomach, which are sometimes so severe as to threaten her life. These paroxysms bear no relation to her meals, are not influenced by the variety or quality of her food, nor are they assuaged or aggravated in any manner by eating. They are quite as apt to return during the night as in the day. She has slight nausea, but no vomiting; is very thirsty, and the bowels are costive. The tongue is pale but not coated, the lips are blanched, the oral mucous membrane looks as if it would readily become ulcerated, as in stomatitis materna. She is the mother of four children, the youngest of which is three years old. Has never had stomatitis. Has always menstruated regularly, but, for some months past, has observed that the flow is less free than formerly. She has no pelvic pain or distress of any kind, but is at times annoyed with a copious leucorrhœa, which she describes as purulent and very weakening. The discharge is increased by prolonged exercise, as by washing, or by walking a considerable distance. She has been treated for the gastric difficulty for some weeks past, but without the slightest relief.

No physiological fact is more certain and more significant than the reflex relation which connects the uterus and the stomach. This relation is especially marked between the uterine cervix and the stomach. This poor woman is the victim of utero-gastric irritation which is so decided as to make her wretched and to cause her a great deal of pain. But the pain and suffering are located exclusively in the epigastrium. From the mere symptoms which she has given us one would not be led to suspect any uterine complication. Even the leucorrhœa would not necessarily be due to

Reflex relations of uterus and stomach.

ulceration. It might be catarrhal, and, at her age, critical in character, more especially as the quantity of the menstrual flow is gradually diminishing.

In treating this class of cases in private practice it is not always advisable or necessary to subject the patient to an examination with the speculum. The better plan is to remember these reflex relations, and to try if possible to cure the patient without placing a premium on the indiscriminate use of this means of diagnosis. But where the disease of the stomach, the heart, or any of the more important viscera does not yield to well-chosen remedies, you will be justified in proposing to search for the remote cause within the pelvis. And not unfrequently you will discover a latent and unsuspected lesion of some kind which will be quite sufficient to account, not alone for the peculiar nature of the individual symptoms, but also for their persistency in not yielding to treatment.

The speculum not always necessary.

That there may be very extensive and serious disease of the pelvic organs, without a corresponding degree of suffering, indeed without the patient or her physician having suspected anything of the kind, is a fact beyond question. It is altogether probable that the ulcer which some members of the class saw in this case, in the ante-room just now, has existed from the commencement of this woman's illness. I have seen examples of the kind in which a similar lesion must have continued for months, and even for years, without being recognized. Such an oversight is quite as inexcusable as it would be to treat a patient's throat or lungs for months together without ever having made a physical examination of the parts affected.

The uterine lesion may be latent.

The surface of these uterine ulcers, in all such as are benign and not malignant, or specific in character, is usually covered either with pus, or with a bland, somewhat gelatinous mucus, resembling the white of an egg. These coatings are protective, and should be removed very cautiously, else the free surface of the ulcer may be wounded, and its appearance very much changed. If you will take a bit of cotton wool, or of soft sponge in the grasp of the forceps, pass the instrument carefully through the speculum, and when it approaches the cervix uteri, give it one or two turns upon

Removal of the protective mucus.

its own axis, very gently and cautiously, you can wind the mucus about it in such a manner as to remove it from the surface of the ulcer without injuring it in the least. But if you mop it off roughly, your examination may be of little practical advantage, at least in so far as the differential diagnosis of uterine ulceration is concerned.

Appearance of the ulcer.

The irritable ulcer is irregular in outline, and varies in its depth. It looks as if it had been cut out with a "punch," the base thereof being considerably depressed below the level of the mucous membrane covering the uterine cervix. This mucous membrane is sometimes red, inflamed, and even œdematous, but again, as in this case, it is almost as colorless as cartilage. The bottom of the ulcer is of a dark red cranberry hue. Sometimes its vessels are so surcharged with venous blood as to cause it to be almost black in color. The granulations are very vascular, and bleed upon the slightest touch. Such patients sometimes complain of a slight flow of blood after exercise and after coitus.

A sign of depraved vitality.

This ulcer implies a low grade of vitality. As in the case of irritable ulcers located on the shin, examples of which you have seen in the surgical clinic, it depends upon a morbid state of the general constitution, and a depraved habit of the patient. The digestive system is almost always deranged. The patient is badly nourished. The mucous membranes elsewhere are not healthy, but pale, easily inflamed, and readily become ulcerated. This poor woman's lips and alæ nasi confirm this view. They have a pearly, exsanguine look, and her tongue has the ragged appearance of one which has been badly ulcerated. The gums are not healthy, and there is every reason to suppose that the lining membrane of her stomach has participated to some extent in this tendency to inflammation and ulceration. Hence her indigestion, inanition, general ill-health, and uterine ulceration, which, with its consequent leucorrhœa, are increased sources of weakness and disease.

Not limited to the poor.

But you must not suppose that this variety of ulceration is limited to the poorer classes of society. Indeed, the most marked examples of this disease are sometimes met with among those who have "lived too well,"

as the phrase is. These persons have brought on indigestion, and a depraved state of the nutritive function by eating irregularly and immoderately, by drinking too much wine and spirits, and developing an irritable, nervous temperament that has predisposed to this species of cachexia. It sometimes follows excessive loss of blood, as in hæmorrhage from abortion, and may be due to too prolonged lactation.

Treatment.—When there is reason to believe that uterine ulceration proceeds from, or is perpetuated by some digestive derangement, it is of the first importance to correct that disorder, whatever it may be. For this purpose the diet should be carefully prescribed, such aliment being chosen as can be most readily digested and assimilated. Albuminous articles are preferable. Lean meats, milk, the white of eggs, oysters and fish in their season, good bread, rice and farinaceous food, afford a sufficient variety. Fruits will furnish the vegetable acid, which is sometimes an excellent antidote to this cachexia. In case of indigestion, peaches, apples, pears and cherries should be cooked before eating them. This is especially true if they must be procured from the market.

Cure the indigestion — Diet, etc.

It is also desirable in this class of cases to husband the resources of the patient's system as much as possible, by closing any drain which may be exhausting her little stock of strength. Hæmorrhage, too excessive or prolonged lactation, diarrhœa, leucorrhœa, night sweats, copious expectoration, or diuresis, may need to be remedied before you prescribe for the ulceration itself. Fresh air, sunlight, diversion of the mind, and the cultivation of a good morale, are as requisite here as elsewhere.

Stop any drain.

The class of remedies most frequently indicated are arsenicum alb., nitric, muriatic or sulphuric acids, sulphur, rhus toxicodendron, baptisia tinctoria, hydrastin, and arsenicum jod. Incidental remedies may be given for incidental symptoms, but we can not be very far wrong in prescribing the first of these for Mrs. B. She will take a dose of arsenicum alb. 6th, morning and evening, and report on our next clinic day.

Internal remedies.

But it is not sufficient merely to regulate the diet, the exercise,

and the hygienic condition and surroundings of this class of patients. Some kind of local treatment is called for, and may, if properly selected and applied, assist in the cure. Although, as I have already said, Nature extemporizes a coating for the ulcerated cervix uteri, still that coating is not always sufficiently protective to prevent the contact of the atmosphere and of acrid discharges, which may serve to interrupt the healing process. And although it is in a measure protective, that mucus is not properly, or in any sense curative. Therefore we find it advisable and necessary to substitute this natural covering by a better one, one that shall serve to keep the part protected against harmful influences, and which is, at the same time, possessed of healing properties. You may sometimes apply the baptisia, calendula, hydrastin, or, if you prefer, the same remedy which you have ordered to be taken internally. Simple glycerine will sometimes be sufficient. When either of these substances are given by injection, the vagina should first be syringed out thoroughly, in order to remove foreign matters, mucus, etc. After taking such an injection, the patient should lie upon the back, with the hips elevated, and without moving the body or shoulders for a considerable time. These injections may be repeated twice or thrice daily, according to circumstances. Where the leucorrhœal discharge is purulent and copious, as in this case, I prefer the calendula with glycerine.

Local treatment.

In this case the near approach of the climacteric may interfere somewhat with a prompt and radical cure of the ulceration. For, although all forms of uterine ulceration heal more slowly and less certainly at the change of life, you will find the irritable ulcer especially liable to become chronic, or, if healed up, to break out again.

I have long been satisfied that a special source of mischief in these cases, and one reason why they resist our remedies and relapse, is to be found in the condition of the rectum which permits the absorption into the pelvic circulation of certain fæcal matters. This induces the form of blood-poisoning that has been described by Dr. Barnes under the head of coprænia, which has the effect to interrupt the healing process in cases of irritable ulcer especially. To overcome this condition we must correct the habit of constipation, and, if necessary, have the rectum cleansed every day.

DIPHTHERITIC ULCERATION OF THE OS UTERI.

In this variety of uterine ulceration the constitutional symptoms correspond with those which are present in diphtheria, affecting other portions of mucous membrane, as for example, the nasal and respiratory passages. There is the same evidence of blood-poisoning, the same prostration and attendant phenomena, and the same sequelæ that occur when the throat is the seat of the abnormal deposit.

Constitutional symptoms.

Examination per vaginam reveals an ulcer upon one or both lips of the cervix, which is covered, or nearly so, with a heterologous deposit. This deposit or pseudo-membrane is a foreign growth, which, in due time, exfoliates. In some cases instead of one or two large-sized ulcers, there are a number of small, whitish, shining patches, which vary in size from that of a split pea to half a hazel-nut. These patches may, or may not, coalesce. To the "touch" they impart a rough or dry sensation that is quite peculiar, and very different from the feel of other ulcers.

Physical symptoms.

The pseudo-membrane which covers the diphtheritic ulcer, or patch, is at first very adherent, and cannot be detached without more or less injury and consequent hæmorrhage. After a little while, however, the friction of the parts during the motion of the body, as in walking or sitting upright, or a careless introduction of the finger, or of the speculum, may separate them. Their removal leaves a raw, bleeding, painful, intractable, suppurating ulcer, which may, or may not, extemporize another wash-leather covering for itself. According to Becquerel, in the order of their coming, the formation of these false membranes precedes the development of the ulcer, or diphtheritic chancre. It is only while something of the covering remains that these ulcers can be diagnosticated with absolute certainty.

The pseudo-membrane.

As a rule the larger the surface of the diphtheritic ulcer, the more superficial it is; and *per contra*, the smaller its dimensions, the greater its depth. The deeper the ulcer, the more profuse the discharge. Sometimes the flow therefrom is acrid and corrosive, and as in

The depth of the ulcer, and the discharge.

nasal diphtheria especially, it destroys, or perhaps inoculates the adjacent tissues. This discharge is always fetid, and, when it is obtained directly from the ulcerated surface, emits the peculiar diphtheritic odor. True diphtheria may be produced in other persons by inoculation with this virus.

Diphtheritic ulceration of the os uteri is rarely an idiopathic affection. The throat and other parts are generally first attacked, and afterwards the vulva, vagina and neck of the womb. As in syphilitic ulceration, the superior vagina and cervix are less frequently the seat of the lesion than are the inferior vagina and the vulva. It has been remarked that, as in other forms of diphtheria, this species of uterine ulceration is especially liable to occur during the epidemic prevalence of variola, rubeola and erysipelas. Many obscure affections of the generative system have undoubtedly resulted from prolonged exposure to diphtheria, and the fatigue of nursing those who were ill with that disease. In these cases the utero-vaginal mucous membrane has probably been the seat of diphtheritic inflammation and ulceration, where nothing of the kind was suspected.

A secondary disease.

If the diphtheritic ulceration of the os and cervix uteri takes place during pregnancy, it is very likely to cause abortion; if during the lying-in state, it may invade the uterine cavity, in which case pseudo-membranous patches have been found at post mortem lining the uterus itself.

Dr. Tilt reports a case in which he claims that a patient had a diphtheritic ulcer of the os uteri from leech-bites. But, in order to produce a generic ulcer of this kind, it is necessary that the specific cause should be at work. For this specific agency, whatever it may be, is just as requisite in this case as it is in diphtheritic angina or conjunctivitis. The only cases of diphtheritic ulceration of the os uteri and the vagina which I have seen have occurred in the persons of those women who, from watching and taking care of those who were ill with diphtheria, became predisposed to this form of the complaint and took it in this way. It is possible, and even probable, that some previous disorder of the generative system, in each of these cases, may have caused the lesion to locate itself upon the uterus rather than in the throat. During the prevalence of an epidemic

Cause.

of diphtheria you should examine this class of patients very carefully with the speculum.

Treatment.

The treatment need not differ essentially from that proper for other forms of diphtheria. If any one remedy deserves more prominent mention than another, it is cantharis. And this not only because of its frequent indication in the treatment of other varieties of diphtheria, but also on account of its special curative relation to the cervix uteri. Mercurius jod., kali bich., kali brom., phytolacca, nitric acid, jodium and hepar sulphuris may be of great service under their especial indications.

Local treatment.

Locally, injections of the tincture of hydrastis, or calendula, or of any of the aforenamed remedies, diluted with water, or glycerine, or both, are sometimes very serviceable. If the discharge is very fetid and offensive, the chlorate of potash, in the proportion of half a drachm to four fluid-ounces of distilled water, and used in the same manner, answers a good purpose as an antiseptic. And so also does a weak solution of carbolic acid, of kreosote, or of the permanganate of potash. The objection to the potash salt is on account of its color. My friend, Dr. W. H. Holcombe, has made use of the kali bichromicum, in the strength of half a grain of the crude drug dissolved in a tumbler of water, "as an injection for ulcerated os uteri, and even for leucorrhœa, with good effect." This may also be used for the relief of diphtheritic ulceration and of vaginal diphtheritis.

Precaution in.

Since this form of uterine ulceration is inoculable, like the syphilitic variety, it is important to exercise the proper care in the use of instruments, napkins, etc., lest we carry the disease to other patients who may happen to be under treatment for various uterine affections. There is also the same need for isolation in diphtheritic ulceration of the womb as in diphtheritic sore throat.

POST-PARTUM ULCERATION OF THE WOMB.

Although ulceration of the womb is not usually classed among the sequelæ of labor, there is little doubt but that it sometimes occurs in this connection.

Case.—Mrs. ——, aged 28, has an infant five months old. She nurses the child, which is thrifty, and lives exclusively upon the

breast. The mother is not well. She has not menstruated since her confinement. She complains of aching in the loins, weariness on very slight exertion, pain in the left iliac region, with inability to lie upon her left side, malaise, anorexia, frequent headache, occasional strangury, and a leucorrhœa which at times weakens her very much and increases the old pain in the back. These symptoms began during her lying-in, and have continued until now.

An examination with a speculum discloses a simple suppurating ulcer within and around the external os uteri.

When uterine ulceration occurs in women who have but recently been confined, it is very apt to be overlooked. The patient may have escaped the perils of childbirth, but for some unknown reason she has a lingering convalescence. At first there may have been a considerable degree of puerperal inflammation, and following this a state of things analogous to what Trousseau styles "colliquative suppuration." Lactation, is, perhaps, normal, and the other functions are intact, but she is extremely weak and reduced, and rallies but slowly. A month or two may have passed before she is able to make an excursion to the dining-room, or the parlor, and three, or even six months before she can take a drive. Meanwhile she has lost her accustomed elasticity, and life is become a burden. She drags around, impelled by circumstances, and the probabilities are that her ill health will be charged to some other cause than the ulceration, which dates from the birth of her child.

Likely to be overlooked.

In such a case the lesion of the os is undoubtedly a result of the inflammatory process. After delivery the uterine tissues readily become inflamed. This inflammation is often, but not always, of such a low grade and type as to develop into ulceration. And once the ulcerative metamorphosis is begun, it is likely to be overlooked and perpetuated. It is altogether probable that pressure upon the cervix, and traumatic injuries thereof during the labor, may indirectly occasion such symptoms as those of which our patient complains.

A sequel of inflammation.

If there were anything distinctive in these symptoms, they would be more easily and generally recognized. But, in a given case, we cannot know positively that a lesion of the cervix exists without ocular examination. Here the speculum is as requisite a

means of diagnosis as if the disease were idiopathic, and did not follow parturition.

There are two general causes for this species of uterine ulceration, or, rather, for ulceration of the cervix, occurring in women at this particular period. The first is the drain upon the mother's blood during gestation; and the second, a similar drain through the mammary glands while she is nursing. By impairing the quality of the blood, and thus lowering the grade of vitality, these causes increase the risk of post-partum inflammation. And in such depraved states of the system there is but a short step from inflammation to ulceration of the uterine neck. The same remark applies to ulceration as a sequel of abortion, more especially after the fourth month.

Impaired quality of the blood.

Treatment. — The hint which I have just given you concerning the relation between the depraved and impoverished condition of the blood and the symptoms complained of, is of great practical significance. Acting upon it, you would prescribe the proper hygienic regulations. If you are satisfied that there is too much of waste and expense to the mother's organism in the quantity of milk that she furnishes, it is better to feed the child with something else than to bankrupt the mother's strength in this manner. Weaning is a last resort. It is not necessary, except in extreme cases, and where the quality of the milk is such that the child is finally poisoned by it.

Weaning the child.

The diet should be as nourishing as possible. Allow milk, lean meats, eggs, game, fruits, and good bread and butter, instead of the sick-room teas, slops and kindred abominations. Fresh air and sunlight should also be ingredients in the prescription. But let me caution you to remember that walking may be very harmful, in case of uterine ulceration, and for this reason, the womb being pendulous when the patient walks, the denuded cervix is brought into contact with different portions of the vaginal mucous membrane. Friction irritates it, and excites the local circulation to such a degree as greatly to increase the suffering, and to extend the lesion. Moreover, the blood gravitates into the pelvic organs, and the consequent congestion more than counterbalances the good effect of the out-door air and exercise.

The diet.

Walking.

Riding.

Riding is less objectionable, but I have observed that many patients with uterine ulceration complain seriously of the street-cars, the stopping and starting, as well as the roughness of which, worry them more than riding in the stages on the avenue, or in a private conveyance, if it be carefully driven. You would not send such patients to ride in a rough country wagon, neither upon horseback.

Cure comparatively easy, and why.

Compared with ordinary cases of uterine ulceration, the post-partum variety may be more easily and promptly cured. The explanation of this fact is to be found in the exemption of the menstrual return, which so much retards the cure under different circumstances. Here is no periodical determination of blood to the womb. In lieu thereof we have a physiological afflux of blood to the mammary glands, which is really derivative in its influence upon the intra-pelvic organs. For this reason, the proper treatment should not be deferred, else the menses will re-appear, and the cure be very much delayed in consequence.

Menstruation during lactation.

It sometimes happens that the too early return of the menses in one who is nursing is an evidence of debility and of waning strength. It may signify that the mother's force and vitality are fast ebbing away. Much will depend upon a proper interpretation of the symptoms in such a case, and upon the line of treatment which you adopt.

Indiscriminate and exclusive local treatment.

There are those who insist upon the necessity of cauterization in every form of uterine ulceration. They cannot divest themselves of the idea that such lesions are removed from the sphere of influence of internal remedies. They argue, and with some show of reason, that there is a lack of responsiveness on the part of the tissues which compose the uterine cervix to the best selected constitutional treatment. Some even go so far as to insist that no such ulcer can be healed except by topical applications, among the best of which are the various escharotics.

But many physicians are in the habit of treating ulceration of the mucous membrane and of the integument by means of internal remedies exclusively. The various forms of stomatitis, ulcerated sore throat, chronic laryngitis, and bronchitis, typhoid fever,

chronic enteritis, typhlitis and dysentery, yield to this method of medication. If in any of the three former affections they consent to apply the caustic, it is an exceptional case; while, in the latter, it would be altogether impracticable to do so.

A large proportion of cases of external ulcer need nothing more topically than to be protected from the irritating influence of the atmosphere by some bland and harmless application. In some cases we may facilitate the healing process in them by the local use of the same remedy that is given internally; but, excepting in specific ulcers, not one in a thousand of them needs cauterization. So in ulceration of the os uteri — when there is no specific reason, either in the nature of the lesion, or in its cause and symptoms, why some specific remedy, as for example the nitrate of silver, or iodine, or what not, should be applied locally, your good sense and judgment would dictate their prohibition.

Only *specific* ulceration needs specific local treatment.

It has been argued in advocacy of the indiscriminate local treatment of uterine induration and ulceration, that a spontaneous cure thereof was impossible, because of the frequent return and concomitants of the menstrual flow, the dependent position of the uterus, and the evil consequences of sexual excitement. But it does not follow that, because these cases do not get well of themselves, therefore they all need to be cauterized. It is bad practice to prescribe at wholesale.

Arguments pro and con.

In the case before you the menstrual aggravation is not present. The peculiar position of the womb does not so strongly predispose to its vascular derangement, or to the perpetuation of a chronic lesion unless the woman menstruates, or its tissues are undergoing the changes which are proper to gestation. In serious cases of ulceration of the womb, the worst consequences may follow a frequent repetition of the sexual act. Such a patient should live apart from her husband. A large share of the benefit attributed to the local treatment of uterine ulceration by caustics of all kinds should really be ascribed to the necessary interruption of the marital intercourse, which is thus rendered impossible. The same is true, but in a qualified sense, of the advantage claimed for change of air, etc., by those who leave their homes and husbands behind them, to seek for treatment elsewhere.

Interdiction of coitus.

You will not understand me as objecting to every variety of local application in simple ulceration of the os uteri. Such an extreme view would be as untenable as that which holds that such means, and only such, are absolutely requisite and curative. There is no valid objection to the topical employment of diluted glycerine, with or without the calendula, of sweet oil, or of the oleaginous collodion in the case of this poor woman. Either of these substances will be grateful to the diseased part, will serve to protect it from the injurious effects produced by contact of the vaginal mucus and the leucorrhœal discharge, and will also stimulate the reparative process whereby the lesion can be healed. The calendula is especially useful where the purulent or muco-purulent flow, as in this case, is very considerable. It may be used as a vaginal injection morning and evening.

Allowable local treatment.

The internal remedies that may be required will vary with the symptoms presented in each individual case. Chief among them are calendula, calcarea carb, arsenicum, sepia and sulphur.

LECTURE XLI.

LEUCORRHŒA WITH CHRONIC OVARITIS.

General remarks on leucorrhœa. Leucorrhœa with chronic ovaritis. Chronic leucorrhœa and the scrofulous dyscrasia. Irritable uterus or hysteralgia.

Although leucorrhœa is a symptom and not a disease *per se*, we are so often called upon to prescribe for it that it may be expedient to consider it briefly in the two cases which I shall show you this morning. Both of them are secondary and symptomatic, and in this light they are typical. The first is dependent upon chronic ovaritis, and the second upon a very different cause. Leucorrhœa may also be a critical and therefore a salutary affection, and for this reason it is not always best to seal it, whether by local or general means. If a flow of this kind follows the menstrual period it may be prophylactic of ovarian and uterine inflammation. Cases of laceration and of sub-involution of the uterus are almost as certain to be accompanied by leucorrhœa as they are by menorrhagia and prolapsus.

Case.—Mrs.——, aged thirty, was married seven years ago, but has had no children, and has never suffered a miscarriage. She has had leucorrhœa for the last ten years. The discharge is of a yellowish white color, sometimes thick and creamy, and again thin, copious, and quite fluid. After having been upon her feet for a long time, the flow becomes more profuse. She is certain that the quantity discharged frequently amounts to three or four ounces in a day. When the matter which is most liquid escapes, she feels most exhausted. She complains, at such times especially, of a sense of weariness, and of dragging pains in the loins and hips. For a long time, she remarked the leucorrhœal discharge was most profuse either immediately before, or directly after, her menstrual "returns;" but for some time past she could discern no especial increase at this or any other period of the month.

She menstruates regularly every four weeks, but the proper flow is gradually lessening in quantity, so that at present she is "sick" but two days instead of three, or three and a half, as heretofore. The only suffering experienced during menstruation is a severe, burning pain, which is located just within the anterior

superior spinous process of the left ilium and above the groin, or in other words, in the region of the left ovary. This pain, which is sometimes very severe, always extends down the corresponding thigh to the knee. She has never had it upon the right side. She is quite confident that she has not menstruated a single time, during the last ten or twelve years, without experiencing this peculiar, burning, cramp-like, neuralgic pain. When the catamenia cease, it immediately declines, and she has never had it in the inter-menstrual period. Riding and walking increase its severity.

Examination by the speculum discloses a scrofulous suppurating ulcer at the os externum, extending into the canal of the cervix. The mucous membrane, investing the vaginal portion of the uterine neck, is considerably swollen and congested. The left ovarian region is exceedingly sensitive to external and internal palpation. She has been treated by four physicians, three of whom cauterized the cervix severely, but without any benefit to the patient. Indeed, she steadily continued to grow worse, and, as you see, her general health is now very much impaired.

A chief point of interest in this case is the lesion of the left ovary and its consequences. For, the local symptoms which occur so regularly, are so characteristic and so constant that we are forced to conclude that the ovarian disease is the primary one. There is, indeed, something quite distinctive about this "burning" pain in the inguinal region, which extends down the limb of the same side. When it comes on with the return of the catamenia, and ceases during the inter-menstrual period, you may be certain that the corresponding ovary is inflamed. This inflammation may exist for years, with a brief, sub-acute and self-limited attack each month. The cause of this fresh and painful recurrence of inflammation is the physiological afflux of blood to the organ; without this afflux the proper function of the ovary can not be performed, any more than the gastric juice can be secreted if the delicate capillaries of the gastric mucous membrane are not injected with blood. It is the periodical repletion of the vessels of an inflamed ovary that gives rise to the peculiar, burning, cramp-like, neuralgic pains of which our patient has just made complaint, and that has literally been the thorn in her side for these many years.

Burning pain in ovaritis. Ovulation sometimes a constant cause of ovaritis.

The reflex relations of the ovaries are numerous, varied, and important. They are in sympathy with the lungs, the mammary glands, the uterine mucous membrane, the nerve centers of animal life, and especially with

Reflex relations of the ovary.

the uterine cervix and its secretory apparatus. The neck of the uterus is not more intimately associated with the womb itself, of which it is the natural outlet, than it is with the ovaries. These little organs, although remotely located, have really as much to do with the active dilatation of the os uteri, and the escape of the menstrual flow through it, as they have with its first formation in the uterine cavity. They not only serve as time-keepers for the menstrual organism, but they also open the gateway of the generative intestine for the escape of its periodical discharge.

This peculiar sympathetic function is exceedingly liable to derangement. In a state of health, both of the ovaries and of the cervix, it is intact. But suppose that either of these parts becomes the seat of serious and protracted disease — nothing is more certain than the consequent, although indirect, implication of the other. It would be almost, or quite impossible for our patient to have had this form of sub-acute ovaritis for so long a period without the cervical leucorrhœa also. Protracted and persistent leucorrhœal discharges, whether from the uterus or the vagina, or both together, are always indicative of structural disease somewhere. The lesions which produce them may be idiopathic or secondary. They may depend upon causes which are purely local, upon those which are constitutional, or upon such as are reflex. In the case before us there is little doubt that the ulceration depends on the inflammation of the left ovary, which is the fount and origin of the disorder for the relief and cure of which we have been consulted.

Sympathy between the uterine cervix and the ovaries.

The gradual diminution of the menses is significant and suggestive. When ovaritis is accompanied by uterine ulceration, which is not cancerous or phagedenic, there is almost always a tendency in the menstrual secretion to become more and more scanty. Under these circumstances, the leucorrhœa sometimes substitutes menstruation, when it is termed "vicarious." This result is more likely to follow the inflammation of both ovaries than of one.

Leucorrhœa may substitute menstruation.

In *catarrhal* leucorrhœa, without ulceration of the cervix, and whether it comes from the uterus or the vagina, the discharge is usually increased either before or directly after the catamenial flow. Here the ovarian sympa-

Uterine and vaginal catarrh from ovaritis.

thy spends itself in giving rise to an extraordinary secretion of mucus, and menstruation is more apt to be profuse than scanty. Some of the worst forms of menorrhagia, or excessive menstruation, are engrafted upon this kind of leucorrhœa, which may also arise from ovarian irritation and inflammation.

Barrenness caused by leucorrhœa.

Sterility is a natural and almost necessary consequence of either of the forms of leucorrhœa just named, which might, without any great impropriety, be styled ovarian leucorrhœa. As our patient's disease commenced before her marriage, there are the best of reasons why she has never been pregnant.

The importance of special pathology.

Treatment. — It is possible that enough has already been said to illustrate the importance of a correct knowledge of special pathology in cases of this kind. And yet I must embrace so favorable an opportunity to say a few words upon a subject concerning which you will find so much in our books and journals. I apprehend that no man or woman ever yet made a prescription without having in his or her mind a theory of the ailment to be treated. However improperly it may have been done, the simplest domestic remedy is not given until the disease has been classified. And among the fraternity, *nolens volens*, we are as much addicted to the habit of naming diseases before we treat them, as to the naming of our babies before they are baptized. And because this theory, which represents our idea of the special pathology of the disease in question, and typifies our knowledge or our ignorance of it, is "as inevitable as one's shadow," it is vitally important that it be correctly established. If we would unravel the tangled skein, we must get hold of the proper thread. In order to be skillful and successful in the interpretation and cure of diseased states, we must begin at the right end of the series.

According to the theory that the ulceration gave rise to the leucorrhœa, and that what would heal the former would also cure the latter, this patient has been cauterized by three physicians in turn. Their applications may have patched up the case, but, for reasons which you now understand better than they seem to have done, the cure was not permanent. The lesion of the os reappeared, simply because the ovarian affection had been overlooked and neglected. And not only did the cruel expedient to which they

resorted fail to cure the lesion of the os uteri; it also increased the ovarian congestion and inflammation. For the sympathy between the cervix and the ovaries is such that whatever harms one will almost certainly implicate and injure the other.

Your preceptors are fully aware of the fact that a large share of the ovarian affections which they are called upon to treat have been caused in this manner. And your own future experience will one day confirm the observation, that the *indiscriminate* employment of escharotics in uterine ulceration is mischievous to the last degree. If those three doctors had been more competent diagnosticians, they would have been less likely to commit such an unpardonable error in practice.

Indiscriminate cauterization of the os uteri.

Let us endeavor to improve upon this treatment. We must study this case most carefully, not for the purpose of naming the disease, and afterwards treating it by name, for that plan has already been tested; but to analyze the symptoms presented, and to remove them in the most rational and sensible manner. In a case of this kind the ovarian symptoms are a thousand times more significant than those which pertain to the leucorrhœal discharge. The proper plan is, therefore, first to treat the disease of the left ovary, and afterwards, if anything remains of the uterine ulceration and its consequent discharge, to address our remedies specifically to them.

The prominent symptoms for which we must select a remedy in this case are, therefore, severe pain in the *left* ovary, which is of a burning character, extending down the corresponding limb, which recurs with every return of the catamenial period, and is aggravated by riding or walking; the menses become more scanty, and are accompanied and followed by leucorrhœa. The appropriate remedy is thuja oc., of which she will take a dose every evening during the month.

The most proper and effective treatment in cases of this kind is one that is brought to bear during the inter-menstrual period. Palliatives and kindred expedients, only designed to relieve suffering while menstruation continues, are in no sense curative. The persistency of the symptoms just named, and the unequivocal indication presented for the thuja, warrant us in promising a great, although it must be a

Inter-menstrual treatment.

gradual, improvement in our patient's health. In addition to the internal remedy, she should syringe out the vagina twice daily with tepid castile suds. In some cases of this kind I add a few drops of the crude tincture of thuja, and in others of calendula, to the water injected into the vagina. But it should be an indictable offense, for the physician to prescribe or apply astringent washes and escharotics, for the relief of such a case of leucorrhœa as that to which your attention has now been called.

You will not understand me to recommend this prescription for all cases of ovarian inflammation indiscriminately. Before the session has closed, I shall doubtless have occasion to advise the employment of various other remedies in the treatment of this disease.

CHRONIC LEUCORRHŒA AND THE SCROFULOUS DYSCRASIA.

Case.—Mrs. V., aged 36 complains of a chronic leucorrhœa which she has had for years, indeed it has been more or less constant since puberty. She has three children, and says that she has no exemption from this discharge during pregnancy. Her youngest child, which she continues to nurse, is thirteen months old. The quantity of the leucorrhœal flow is large, and has always been so, excepting while she suckled her children. She always had a copious secretion of milk "enough for two babies instead of one." She is slender and delicate, takes cold very easily, and is subject to severe attacks of diarrhœa, which, together with the leucorrhœal flow, weakens her very much. There is no especial aggravation of her symptoms at the month, or at any other time. The menses are regular, but rather copious. Her family are scrofulous, one of her brothers having had "a white swelling," and a sister having had numerous abscesses of a scrofulous character.

For practical reasons, it is well to divide the varieties of leucorrhœa into the *acute* and the *chronic* forms. Acute leucorrhœa may be physiological, critical, and even salutary, as spermatorrhœa may exist without being, in a proper sense, pathological. A leucorrhœal flow sometimes affords a means of escape for an excess of serum that has accumulated within and about the glandular structure of the cervix uteri, and which has been attracted or driven thither by some temporary local excitation, or reflex emotional cause. Like a perspiration, or a free diuresis, it may be designed to open a safety-valve in order to prevent a local congestion or inflammation.

Leucorrhœa may be critical.

Such a flow may be critically prophylactic of bronchitis, a fit of indigestion, a diarrhœa, or an attack of "sick-headache." As my friend, Prof. Sanders has shown,* it may furnish a means of elimination and of ready exit for morbid products that would be mischievous if they were retained. Or it may be contingent upon some slight menstrual irregularity, a temporary displacement of the uterus, functional disorders of the bladder or of the rectum, or upon an irritation of the mammary glands, or of the ovaries. But if it is acute, it is more likely to be salutary than harmful. And in every such case, provided we do nothing to increase the difficulty or to prolong its duration, it will cease of itself as soon as its transient exciting cause has been removed.

When, however, as in this case, a leucorrhœa becomes chronic or habitual, when it has persisted, without cessation, for weeks or months, draining away the patient's strength, making her wretched, one of three things is certain: (1) either there is some local cause, near or remote, which gives origin to the disease, and sustains it; or (2) there is a bad habit of body, a depraved condition of the general system, a cachexia, a morbid bias, or a dyscrasia, inherited or acquired, which perpetuates it; or (3) these two sets of causes are combined.

Local and general causes.

Perhaps we should approximate the truth most nearly by assuming that, of all the cases of leucorrhœa that have come to our individual notice, one-third of them were of the acute, or self-limited kind; another third were intimately connected with the history of some local lesion, or lesions, of the generative apparatus; while the remaining third were essentially of a constitutional character. But the physician who is engaged in a general practice will find these proportions to vary considerably. It may happen that only the first class of cases will fall under his care. This is especially true in the cities and larger towns, where the more serious and protracted examples of female disease, of whatever variety, are placed in the care of the specialist. Hence it would not be strange if the general practitioner should draw a wrong inference concerning the results of his experience, or the universal efficacy of his particular method of treatment. If, for example, he had

Varying influences and results.

* *Vide* Transactions of the Twenty-sixth Session of the American Institute of Homœopathy, page 490.

relied exclusively upon internal medication, basing the choice of the remedy upon the indications which are ordinarily given, and the result was favorable, he might conclude that nothing else would be required in any possible case of this kind.

On the other hand the specialist, who sees a much larger proportion of cases of leucorrhœa which belong to the second group, is almost certain to adopt the current theory that there is always a local lesion at the bottom of the difficulty. To him a leucorrhœal flow is synonymous with inflammation and ulceration of the uterine cervix, and it is difficult to persuade him that anything excepting an escharotic will cure it. Or, if it is an exceptional case, and he is sufficiently discriminating to exclude these lesions as the cause of the trouble, it is altogether improbable that he would depend upon any other than surgical means for its relief. The conclusions, therefore, are founded upon peculiar and individual experience both with respect to the variety of cases in which the doctor has been consulted and the apparently uniform success of the exclusive treatment which he has employed.

It is not difficult to discern, therefore, that, while these parties may be equally honest, both are deceived as to the facts in the case. For each has been working in a hemisphere, and neither of them has made the whole circuit of the question at issue.

Generally speaking so little is thought of the constitutional causes or modifications of this affection that they are regarded as of little consequence in its treatment. Especially is this true of those dyscrasiæ which underlie and complicate it, and which because they are latent and obscure, are apt to be overlooked and ignored.

Constitutional causes.

Without any disposition to magnify the importance of this class of causes, or to construct a predetermined rule, or system of invariable practice, in the treatment of this or of any other disease, I shall remind you of the influence which one of these morbid states of the constitution exerts upon the clinical history of leucorrhœa.

Whatever the differences of opinion among medical men concerning the existence of *scrofulosis* as a distinct disease, it will be conceded that it represents a faulty state of the general health which often predisposes to, and alters the clinical history of other diseases. Its modifying in-

Scrofulosis in.

fluence over affections of the skin, and of the mucous membranes especially, is well known. There is nothing new in this very general idea; but when applied to the etiology, pathology and treatment of leucorrhœa, its practical lessons are scarcely recognized by the profession. This fact may be verified by reference to the works of the most distinguished writers of all schools, who say little or nothing on the subject; and also by a consultation with experienced physicians, who either know nothing of it, or who, taking an exceptional advantage thereof, have perhaps been enabled to make some remarkable cures.

Now this case is a typical one. When you are consulted for the cure of a leucorrhœal discharge and find the patient with a rough, dry skin, a pasty, unhealthy look, an indolent habit of body, with swelling of the lymphatic glands, deficient in stamina, impaired digestion, and a tendency in the leucorrhœa to alternate with some other affection, as a cough, a catarrhal disorder, or a diarrhœa, you may conclude that the strumous habit complicates the difficulty, and that your success in curing it will in a great measure depend upon your recognition of this fact. If to these more ordinary symptoms of scrofula it is added that the patient continued to have the leucorrhœa throughout gestation, and that she habitually has a very copious flow of milk when suckling, as nearly all scrofulous women do, the modifying influence of this dyscrasia is the more pronounced and positive.

Here then, is a constitutional cause which will serve to account for the intractable nature of the disease in a large proportion of cases, and for their failure to respond to the best chosen remedies, when those remedies are selected by the usual method. For there are not a few cases of this kind in which, in order to be successful, you must direct your attention to the underlying dyscrasia. You cannot cure this leucorrhœa by local applications. Merely to seal the flow by astringents, or by the use of any kind of caustic, would not touch the cause of the difficulty, and could not be thorough. The scrofulous habit, and the predisposition to glandular disease must be broken up by constitutional treatment before the local symptoms can be radically cured.

Practical inferences.

Whether we are justified in promising entirely to rid our patients of a scrofulous, any more than of a rheumatic or a syphi-

litic cachexia, I very much doubt. And it follows that, if we cannot do so, we should be very careful about promising to cure a chronic case of scrofulous leucorrhœa like this one.

Treatment.—Women are generally better economists than men, but in the matter of wasting their own physical resources, they are sometimes very prodigal. Here we are in the middle of winter. This woman's child is more than a year old. Her health is wretched. She is a bankrupt in strength and physical resource. But still she continues to drain away her little remaining vitality from a sense of duty to her child. The greater the lacteal secretion, the more copious the leucorrhœal flow. She will never get well in this way.

Economy of strength.

Ablactation, or weaning, is therefore the first remedy. The second is to put her upon a good diet. Milk, cream, lean meat, eggs, and good bread and butter, are the best things for her to eat. Fresh air and the avoidance of fatigue are also indispensable.

Weaning and good food.

The third requisite is to find and supply such medicines as will counteract and overcome the influence of the scrofulous dyscrasia. Other remedies may be given incidentally and upon the ordinary indications, for reflex and accidental complications, but the main dependence will be upon such medicines as calcarea carb., calcarea phos., mercurius, jod., arsenicum jod., silicea, natrum phos., ferrum phos., and jodium, or hepar sulphuris. This patient will take calcarea phos. 3, four times daily, and report.

The remedies.

You will remember the case of M——, a sewing-girl 23 years of age who came to our clinic a martyr to a constant and copious uterine discharge. When she was not menstruating, she had the leucorrhœal flow, and this double drain had induced the most unmistakable symptoms of chloro-anæmia. She had palpitation, with cardiac irritability on exercise, and very decided symptoms of cerebral and spinal anæmia. Once she had a partial paralysis of sensation in the whole of the left half of the body, and which responded to the internal use of rhus tox. 3.

Case.

For the leucorrhœa and the menorrhagia she was given calcarea carb. 3, with a steady improvement in all of her symptoms. The

monthly excess was the first to yield, and the anæmic symptoms soon disappeared. For the leucorrhœa she afterwards took sepia 3, with the affect to cure it. She was of a scrofulous diathesis, and this afforded an additional indication for the calcarea carbonica.

In this class of cases you will sometimes do well to prescribe the cod liver oil as a diet that is especially adapted to the scrofulous constitution. It is an aliment merely, and not a medicine, and we may use it as we do the vegetable acids in stomatitis, or milk in Bright's disease, without any risk of interference with the action of appropriate internal remedies.

IRRITABLE UTERUS.—HYSTERALGIA.

Case.—Mrs. J——, 27 years old, married, with three children the youngest of which is two years of age, has been an invalid for nine years. She is naturally delicate and sensitive. She was married at eighteen, and left home directly for a wedding trip, which was to consist of an excursion to a distant city and a visit of a fortnight to her husband's relatives. When she reached home she felt as if her nervous system was very much shattered. She attributes this result to a want of entire sympathy and accord with her husband, who she says, never understood her, and never took any especial pains to please or to gratify her. During her girlhood, after fourteen, she suffered a great deal at her monthly periods, more especially for the first ten or twelve hours. For this she usually took hot teas, and gin, and kept to the bed. Since the birth of her children this dysmenorrhœa has not returned, but she has not been well for a moment. Her chief complaints are of a fugitive character. She is wretched when she goes out, and when she comes in; in the morning and at night. The only pains that she has are shooting, shifting and transient, mostly in the lower part of the back and of the abdomen. At intervals she has spells of lying in bed with these pains for several days. Sometimes there is strangury, particularly after coitus, which always worries and unnerves her. Menstruation is regular, but less free than it should be. She is most happy when in general society. When she can forgot herself, and be thoroughly diverted, she feels like another person. For this reason she likes to go away from home on a visit. Her nights are wakeful, and she dreams of every event, whether pleasant or painful, in her past life. Her feet are always cold.

Examination does not reveal any sign of organic disease about or within the pelvis. The uterus is very irritable and tender to the touch. It seems to be slightly enlarged, but is not displaced. When the finger comes into contact with it she says it produces

the same painful tension and disagreeable feeling which she has always experienced during intercourse, and which is so intolerable to her.

There is a large class of diseases, of which this case is an example, in which the obvious organic lesion of the uterus and its appendages is the poorest possible criterion of the real nature of the complaint, of the suffering involved, and of the difficulty of curing it. The irritable uterus is not inflamed or ulcerated, congested or displaced. There is no lesion of structure connected with it necessarily. It yields no characteristic or critical discharge. Its measurements are normal, its regional anatomy is unchanged, and it offers no especial obstacle to menstruation, conception, or parturition.

Has no definite lesion.

So far, therefore, as its morbid anatomy is concerned, it resembles nitrogen in being negative in its character; for it consists essentially in an excitable or irritable condition of the womb, in which its nervous sympathies and relations are exaggerated and discordant. Inflammation of this or adjacent organs may exist as a sequel, or complication, but they are not a necessary part of the disease. So, also, in some cases there are incidental symptoms of spinal irritation, and of reflex disorders of every conceivable kind, which are contingent upon the morbid exaltation of uterine sensibility.

A species of hyperæsthesia.

This disease is limited for the most part to menstrual life. It occurs in the case of the married and the unmarried, but is more frequent among the former. Those who have been pregnant, whether they have gone to term or not, are believed to be more subject to it than such as have never conceived. There are, however, many exceptions to this rule. In general, those women who are weak, nervous, and impressible, and who have been subject to slight, spasmodic and painful irregularities of menstruation, are very prone to this disorder in after life. Unhappy marriage, the loss of property and of position in society, the lack of occupation, disappointment, solitude, the dread of having some "female weakness," inordinate use of tea and coffee, chagrin, jealousy, frequent abortion, too rapid child-bearing, erotic thoughts, and sexual excesses, belong also to this class

Limited to menstrual life.

Predisposing causes.

of causes. The rheumatic and neuralgic diatheses are powerful predisponents of this form of hysteralgia.

The exciting causes are also numerous. Whatever can directly or indirectly exalt the nervous susceptibilities and sympathies of the uterus (even if the stimulant be natural and harmless under different circumstances) is likely to work mischief if too frequently and carelessly applied. The emotions, which properly controlled are healthful and useful, may be in league with the passions to derange the uterine nervous system, and either or all of the functions connected therewith. Under their influence the womb may become so irritable that menstruation shall be suppressed, or become intermittent, scanty, profuse, or perhaps very painful. Or, through the uterine irritability that is induced, a fruitful intercourse may be impossible, and sterility will be the result.

Exciting causes.

Ungratified sexual desire is undoubtedly almost, if not quite, as injurious to the female in many instances as an excess of venery. For women are not only subject to sexual passions and propensities similar to those of men; but they are also under the dominion of a periodical crisis, that is attended by a peculiar exaltation and excitement of the generative system. These crises can not always be passed with impunity. They involve certain vicissitudes which derange the uterine innervation. And coming as they do so frequently, these nervous derangements are perpetuated. It is sometimes as difficult to tide a woman over "the month" as it is to carry a popular patient, who is very ill, over the Sabbath, or through a holiday, without a relapse, or an exacerbation of his disease. The contingent excitement and re-action are so mischievous that it is almost impossible to counteract them. The result is an irritable condition of the uterus and of the whole sexual system.

Other causes of this kind are the fitful, too frequent, and incomplete performance of the sexual act, without regard to the menses, or to the emotional state and desire of the female; exercise, as in riding or walking while menstruating, or directly after the flow has ceased; getting up too soon after delivery, and especially after abortion; too prolonged lactation; frequent miscarriages; the use of harsh or cold injections with a view to prevent conception: constipation, from paralysis of the rectum; dancing, skating,

horseback riding, blows and falls upon the spine; excessive or constrained muscular effort, as in running the sewing-machine, prolonged standing upon the feet, or sitting in a confined posture at a desk; prolapsus, retroversion or retroflexion of the uterus; pressure of the bladder, of the bowels, of the ovaries, or of some pelvic or abdominal tumor against the womb; spasmodic and mechanical obstructions of the cervix uteri; ulceration of the vagina or vulva; nymphomania; vaginismus, and ovarian irritation. The uterus is generally exempt from this form of irritation until after puberty.

Some of the most intractable and painful cases of irritable uterus that I have ever treated have occurred in those women who, having been married for several years, have had no children. In many of them conception took place almost immediately after marriage, but for reasons which seemed to them to be justifiable at the time, and without any adequate idea of the harm involved, measures were taken to force the flow, and, in short, to bring on an abortion. These measures were successful. The uterus was emptied of its contents. But the indirect consequences remained to torture them, and to impair their health and happiness for years to come. I could tell you the story of more than one beautiful woman who has suffered with this trying disease, whose health has been ruined, who has remained childless, and who would give the world if, when she was the bride of a few weeks, she had not swallowed somebody's "never-failing pills," or taken the wretched advice of a neighbor in this respect.

From an early abortion.

Another fertile source of this uterine irritability is the reckless cauterization of the cervix of which I have already spoken so frequently. There are certain subjects upon whose delicate organisms this species of refined cruelty reacts with a most damaging effect. And it is a singular fact that those physicians who resort to it habitually become blinded to these results and indifferent of the consequences. Let me cite you a case to which I was called yesterday:

From escharotics.

Case. — Mrs. ——, an intelligent, active woman of twenty-two, of nervous temperament, mother of one child two years old, has not been well for six months. Her household cares, and the worry with servants, the heat of the weather, and having to entertain an

avalanche of friends, had worn her down, and she was reduced in strength and spirits. She had no positive symptoms to complain of, excepting that she suffered from more frequent and severe attacks of sick headache (to which she was accustomed) than usual.

For some weeks she tried to cure herself by means of domestic remedies from her own case, and finally by tonics of various kinds at the prescription of some of her friends. But her symptoms remained as before. She continued her household drudgery, did her own shopping and marketing, and, as usual, went to church and to Sabbath-school.

Finally, through the advice of a neighbor, she consulted a lady physician, who cauterized the neck of the womb, and continued to do so twice each week, excepting the menstrual week, for six weeks. From the first application, she felt herself very much injured, and made worse; but was advised to persevere, on the theory that, when she had once passed this purgatory, her feelings and experiences would be blissful enough. Each repetition of this cruelty unnerved her more and more. She could not sleep, but walked the floor at night, lost her little remaining appetite, had cold, fainting spells, in which she would be unconscious for a long time; she became discouraged and disheartened, melancholy, and, so her husband told me, practically insane for many hours after the caustic had been used. With this there developed a most tormenting strangury, and, after the second week, a corrosive, itching leucorrhœa, although she had never had the slightest sign of either of these complaints before.

At the end of the seventh week, after having had twelve of these "treatments," she deliberately came to the conclusion that her health would be utterly ruined should she persevere in this course. She therefore relinquished it, discharged her physician, and sent for me.

Symptoms.— It would be quite impossible to give you all the symptoms of this curious disease in detail. In general the pain that is experienced is disproportionate to the uterine lesion. It varies in its seat, and character also. Usually it is located somewhere in the lower part of the back, or within or near the pelvis; but very often it is situated in the head, the spine, the chest, or the abdomen. The pains are transient, paroxysmal and neuralgic, being for the most part, unaccompanied by any profound or peculiar constitutional disturbance. They are greatly influenced by emotional states, being either aggravated or relieved by certain conditions of the mind. Posture modifies the recurrence and severity of the paroxysms.

Location of the pain.

Most women who have an irritable uterus find it difficult to maintain an upright position for any considerable length of time. They can not stand or sit more than a few minutes without great suffering, and going up and down stairs is almost impossible for them. Often the reclining posture is the only one that can be tolerated. They may have a mortal dread of defecation and of urination, either of which is apt to be followed by extreme pain, exhaustion or faintness. Sometimes there is an irresistible desire to pass water, especially when she lies down; again the urging to stool is equally tormenting whenever she sits up. And still the urine may be unchanged in quality, and the bowels remain costive.

Effect of posture and of motion.

To these symptoms we must add those which simulate certain local disorders, as in the mimicry of Hysteria. The most common of these are dyspnœa, aphonia, palpitation of the heart, angina pectoris, pleurisy, neuralgic pains in, and swelling of the breasts, especially before or during menstruation, ovarian aching and irritation, headache, facial and orbital neuralgia, gastrodynia, dyspepsia, chronic vomiting, depression of spirits, monomania, numbness of the extremities, muscular paralysis, and stiffness and uselessness of the joints.

May simulate other diseases.

The nervous symptoms include insomnia, flatulent distention of the abdomen, dejection of spirits, emotional distress, great fluctuation of the feelings, sourness or suspiciousness of temper, loss of self-control, lassitude, indifference, hypochondria, extreme sensitiveness to ridicule or to reproach, fickleness, jactitation, unrest, local or general spasms, tremors, partial paralysis, and circumscribed alterations in the temperature of the part affected.

Nervous symptoms.

Of course these symptoms are not all present in every case of irritable uterus, but for every one of them that is lacking, you may find that ten or twenty others have been added. In brief, the symptoms are subject to the same variations, and are many of them as inexplicable as they are in hysteria, to which disease this affection is so closely allied. They are generally aggravated at the month, and are largely influenced by the state of the patient's emotions. She may be suffering severely, for example, with a pain which

Symptoms may be capricious.

alarms her family and makes her seriously ill. A friend calls to invite her to a drive, or a visit, and forthwith the symptoms vanish. The family are horrified at her going out so soon; and the doctor, who left her an hour before at home, may meet her miles away on a mission of mercy or of pleasure.

Contradictory nature of.

Such a patient, who can not sit upright in her chair for five minutes consecutively, will sometimes get into her carriage, and in a half-reclining posture, ride by the hour, or all the day long, without the least sign of fatigue or suffering. Or she will manage the affairs of her household, of the church, or of some charitable enterprise, with all the executive ability of one who is well and able to withstand any amount of fatigue. And yet, in so far as the mastery of her own movements is concerned, she may be as helpless as an infant.

Physical examination.

An examination per vaginam, as in the case of Mrs. J., reveals a more or less sensitive condition of the womb. The cervix is tender to the touch, and if you push the organ toward the superior strait it pains the patient exceedingly. In some cases the pain upon pressure is limited to a small spot. The most delicate manipulation with a view to introduce the sound or the speculum occasions more of suffering than usual. Sometimes the uterus feels swollen and slightly enlarged. Occasionally it is more or less prolapsed, and in very rare instances it is either retroflexed or retroverted.

From coccyodynia.

Diagnosis. — This disease is sometimes confounded with coccyodynia. But, in coccyodynia, whether from an injury sustained during labor, or from a fall or a blow, the patient can not sit down squarely, or rise again without immediate and most excruciating pain, which is always referred to the point of the coccyx. In irritable uterus the pain is not always so limited, and she can usually sit from five to fifteen minutes before the pain and the ill feeling come on. In the former the reclining posture is as painful as the upright one in sitting; but not so in the latter. In the former there is likely to be a great increase of the neuralgic pain while at stool, and pressure with the finger in any direction induces a local paroxysm; in the irritable uterus the suffering at stool is such as usually attends a constipated state of the bowels, and pressure upon the coccyx does not cause any very distinctive or extreme pain.

You would differentiate this affection from organic diseases of the womb by the absence of such discharges as are produced in uterine ulceration, and leucorrhœa. It need not be confounded with dysmenorrhœa, for in irritable uterus, although it is apt to be worse at the month, the pain recurs without any regard to menstruation, and often continues from one month to another.

From organic disease.— Dysmenorrhœa.

Treatment. — Whatever predisposition the patient may have inherited or acquired should, if possible, be removed, in order that the proper remedies may work more efficiently. So also of the avoidable causes, providing you can determine what they are, which in some cases is extremely difficult. To fulfil these indications may require much time and an infinite deal of tact, but, if you have the full confidence of your patient, and are sufficiently persevering, you will succeed in making life tolerable to her, if not in performing a radical cure.

Remove the cause.

In general you should remember that this class of patients are weak, debilitated, and badly nourished. If they take a sufficient quantity of food, it does not build them up as it should. Their vital force is low, and their strength is below par. They are too prone to depend for subsistence upon tea and toast, and crackers, and various little delicacies which can not sustain them properly. They are very apt to loathe meat of all kinds, milk and all varieties of animal food, and from their habits in this regard to develop a species of neuralgic dyscrasia, which frequently underlies and may even cause the worst form of hysteralgia.

Build up the general strength.

The first thing to be done for such patients is to fortify their general strength and vigor by stimulating their digestion, and supplying them with the proper aliment. Instead of mincing their meals and eating under protest in their rooms, apart from the family and alone, they should be brought to the table with others and tempted to eat more freely of good, substantial food. Let them "follow copy," as the printers say, and imitate those who have better appetites.

The mode and time of eating.

The fresh air and sunlight are indispensable; but the amount and variety of exercise to be taken must depend upon the patient's

original strength, and the peculiar complications and history of the case. The more marked the hysterical tendency, the greater the need of will on her part, and determination to overcome the physical obstacles that lie in her path. Some of these patients need almost to be put out of doors before they will make the necessary effort to walk or ride, and thus learn for themselves that locomotion is among the possibilities.

Fresh air and exercise.

But it will not do to insist that all are alike in this respect. For, on the contrary, some of them will go too much and too far. They overdo in this direction, and need to be restrained. And others are absolutely too weak and too ill to take active exercise, regardless of its cost or consequences. The best rule with which I am acquainted is to observe carefully how each one is influenced by the effort of going to ride or to walk, and thus to learn what she can bear and take within the limits of actual fatigue. She may be able to ride three squares not only with impunity, but with decided benefit, when to add one more square to the length of the drive would do her a positive injury. Long journeys are more tolerable for this class of our patients than they were before the days of the sleeping-car, but notwithstanding this improvement, many are yet injured by travel on the railways. When it is possible, and convenient, it is best for them to journey by water.

Varying ability to take exercise.

You will have so much trouble in regulating the habits of some of these patients in many particulars, that I am tempted to let you into a little secret which may help you to carry your point, and to adapt your counsel to the end in view. First, make up your mind deliberately what practice, or habit, or influence it is that lies in the way of their recovery. Then set to work to reform or to remove that custom or influence, whatever it may be, by gaining the entire and willing assent of the patient herself. These indications cannot always, or perhaps frequently, be met in an off-hand or intuitive manner. They require the exercise of thought and of tact. And unless you can secure her confidence and co-operation, you certainly will not succeed. It may need a large measure of skill and of perseverance to bring it about, but you will learn that the art consists in having your own way, while she is under the impression that she has hers also.

A practical hint.

A very common error in the treatment of the irritable uterus is to suppose that uterine surgery, as it is technically styled, and ordinarily practiced, will help to cure it. For the truth is that, in this class of cases, it does more harm than good. There is not a single operation, or expedient of this kind, that is advisable in an uncomplicated case of hysteralgia. Caustics, the knife, the sponge-tent, the bistourie cachée, the sound, the probe, and pessaries of whatever variety, are so many instruments of torture. They invariably aggravate the disease. It is only when some of the incidental conditions that require such aid are superadded to the irritable condition of the uterus itself that the intelligent physician employs them in this disease at all.

Surgery contra-indicated.

For the relief of the spinal, sacral and pelvic pains various topical applications are permissible and useful, the same as in other forms of neuralgia. Bathing the back with salt-water, dry frictions along the spine from above downwards, hot or cold water locally, the shower bath, pediluvia, wearing a thick layer of cotton batting along the back, the wearing of silk undervests and wrappers to insulate and protect the person against sudden electrical changes, painting the painful part with the oleaginous collodion, dry cupping, porous plasters, arnica plasters, magnetism, electricity, galvanic belts and plates, and the use of bland and soothing injections per vaginam are the most common and useful of these expedients.

Topical expedients.

I once called an old physician in counsel in a case of diphtheria. We had agreed upon the internal remedies, when my friend suggested that something, and the simpler the better, should be prescribed for external use, chiefly in order to keep the nurse and watchers busy with that which would do no positive harm, even if it did but very little good; for, said he, you know that "Satan finds some mischief still for idle hands to do."

Why we should use them.

Acting upon this principle, and remembering the propensity of human nature to overdo in the matter of nursing especially, you had better advise some simple expedient that will "keep the nurse and watchers busy," rather than let them "fly to evils that they know not of."

It is unnecessary to repeat what I have already said of the

choice of remedies when speaking of the treatment of hysteria.

No specific treatment.

There is no specific for the relief and cure of the irritable uterus. If the proper conditions are supplied and secured, medicines will achieve the most marked results. Otherwise they are powerless. The symptoms are so complicated, and oftentimes so contradictory, that you will find it very difficult to choose the most appropriate remedy.

It is very probable that among the newer remedies, which of late have attracted so much attention, we may yet find a more ready means of cure for the various nervous disorders which are symptomatic of uterine disease and irritation. For myself, I have come to place a deal of confidence in macrotin, gelseminum, caulophyllin, the lilium tigrinum, and senecin. Other members of this class are scutellaria, ambra grisea, cypripedium and veratrum viride. But the old polychrests should not be forgotten.

The new remedies in.

Mrs. J. will take a dose of macrotin three times daily, and have electricity applied along the spine twice per week—every Tuesday and Friday evening. I think it best in these cases that electricity should be used in the evening rather than in the morning or the early part of the day. She must also play the part of a good Christian philosopher, and not let her little domestic cares and trials fret and worry her too much.

Prescription.

LECTURE XLII.

UTERINE CANCER.

Carcinoma uteri. General observations. Varieties. Causes. The subjective symptoms. The physical signs. Diagnosis. Course and duration. *Case.*—The cancerous Cachexia Prognosis. Treatment, local, medical and surgical.

General observations.—The term cancer is applied to malignant disease of the womb, and a peculiar interest attaches to its clinical history. Without entering into a discussion of the histology of carcinoma, it is enough to say that in all of its forms it is a fearfully fatal disorder, and that its essential nature as well as its treatment are not fully understood.

Varieties.—For practical purposes we recognize three forms of this disease: (1) the fibrous, or scirrhous, (2) the medullary, or the encephaloid, (3) the epithelial, or the cancroid form. The first, or the scirrhous variety is known among authors as the chronic form of the disease, and one in which the uterine tissue becomes hard, of a white or greyish white color, with such an absence of moisture as causes it to creak when it is cut with the scalpel. In the encephaloid cancer the surface is of a pinkish white, or rose color, with a caseous consistence, like that of the cerebral mass. The epithelial form is fungous or vegetating, with a tendency to ulceration.

Most authors treat of two general varieties of uterine cancer, *viz.* that of the body of the organ, and that of the cervix, but they are essentially the same.

Causes.—The most powerful predisposing cause is heredity. Age comes next, for it is most frequent at and after the menopause. Rapid child-bearing, and frequent abortions, especially if they have been induced artificially; chronic menstrual irregularities; sexual excess, particularly in those who have borne children; and the immoral influence of city life belong to the same class of causes. It is very doubtful if any exciting cause could produce this disease independently of the cancerous dyscrasia.

Symptoms.—There is no proper order for the advent of the

symptoms; in fact they have usually existed for a considerable time before we are consulted. Perhaps the most constant of all the symptoms in every variety of this disease is the hæmorrhage, and yet it is not present in every case. The form which it assumes, especially in the early stage of cancer, is that of menorrhagia. But farther on the flow is more copious, or long-continued, and recurs without regard to the month. Generally, the nearer the approach to the climacteric the greater the amount of blood lost by this recurring hæmorrhage, which, when the interval is prolonged, is sometimes mistaken for a continuance of menstruation. This hæmorrhage in uterine cancer may anticipate the pain and the peculiar leucorrhœal discharges which almost always accompany the disease.

The hæmorrhage.

In advanced cases it is characteristic of this flow that it is caused or increased by the slightest movement; by mental excitement; by local irritation as from the contact of the finger, the use of a syringe, coitus, coughing, or straining at stool; by the most careful introduction of the speculum or the sound, by lying upon one hip or the other, or by standing or stooping. The quality of the blood that is lost depends upon its excess and the duration of the disease. As the cancerous cachexia is more fully developed it becomes thin, mixed with a sanious pus and with the debris of the uterine tissue.

The leucorrhœal discharge that accompanies the different forms of cancer, is sooner or later of a watery character, and peculiarly offensive. If the patient has been subject to leucorrhœa, she is apt to make very little account of it, and you may be the first to suspect its connection with a malignant disease. But you are not to suppose that because she has a fetid and watery discharge, therefore she must have uterine cancer; for this quality of leucorrhœa may arise from the presence of a polypus or of a sub-mucous fibroid. In the early stage of epithelioma the odor is not offensive, but when it changes into the medullary form it becomes very much so. (Fig. 114.)

The leucorrhœal discharge.

If a thin, acrid, and fetid leucorrhœa follows or alternates with an alarming hæmorrhage, with a greenish yellow, a brownish, or a chocolate colored discharge, the chances are that the flow is of a cancerous origin. The odor of the flow which is characteristic, is

sometimes so bad as to render the patient an object of pity, and even of loathing to herself. Some authors have claimed that the contact of this ichorous discharge has not only caused a pronounced vaginitis, with more or less erosion, but also an increase of sexual desire. I believe this is a mistake.

The quality and the degree of pain vary in different cases according to the seat and the extent of the lesion and the duration and the severity of the disease. Sometimes it is lacking altogether; again it does not appear until the affection is far advanced; and still again it may come at intervals

The pain.

FIG. 114. A sloughing epithelioma (Sims).

and then disappear for a time. Its caprices in this regard, and the possibility that it may not be present are sources of deception, not only to the patient but also to the physician. As a rule the mucous forms of cancer are the least painful; while those which involve the peritoneal coat of the womb are most so.

The location of this pain is not always directly over the body of the organ, but on account of the infiltration of the cellular tissue in the broad ligament, it is very apt to be seated in one of the sides of the pelvis. If the infiltration has taken place around the cervix, as in pelvic peritonitis, the uterus will not only be anchored firmly, but the pain will be of such a character as to be aggravated by motion, the position of the body, and by the various causes already given.

As the disease extends and encroaches upon other organs, the intra-pelvic pain and distress becomes more severe and constant; the lancinating pains give place to a dead, dull, heavy aching, with dragging sensations that torture the patient exceedingly. Horrible suffering is sometimes induced by the invasion of the bladder, and in other cases by its attacking the sacral nerves. Under these circumstances there is no rest and no comfort; the patient cannot sleep, or eat, and is borne down in spirit by the knowledge and the thought that she will surely be a martyr to this disease.

The reflex symptoms of uterine cancer are not distinctive; nevertheless the patient often complains of neuralgia, and of radiating pains in one or both of the mammary glands, in the intercostal spaces, in the face, and in the upper extremities.

The reflex symptoms.

The touch, either combined or singly, is of especial value in each of the varieties of cancer. The sensation imparted to the finger will vary with the location of the tumor, its size, its texture, its age and period of development. Its sensibility, its immobility, the ease with which it is made to bleed, and the odor of the discharge upon the finger after direct palpation. In cancer of the womb especially, the touch will indicate the degree of phagadenic ulceration, the friability of the granulations, the extent to which the tissues have been destroyed, and the encroachment of the lesion upon the neighboring structures. On account of the pain and the hæmorrhage, that are induced by the most careful employment of the speculum, it sometimes happens that the physical examination of uterine cancer is limited to the touch.

Physical signs of.

When it is practicable the speculum may be used to confirm the signs that have been revealed by the finger. But it is only in the case of limited, or incipient cancerous ulceration, or of cancroid growths upon the cervix that we shall find what is distinctive in the field of the instrument. The irregular, fungous, or bleeding surface, which is of a greenish or brownish color, the tumefaction, and deformity of the cervix, and the quality of the discharge are included in these symptoms.

In examining a case of this kind, it is of no use to employ a Ferguson's speculum; and if you pass a duck-bill speculum, you

should be very careful in separating its blades not to induce an attack of metrorrhagia bywounding the ulcerated surface; nor, in case the disease has involved the vaginal walls, to create an opening into the bladder or the rectum. Sometimes a Sims' speculum, if carefully applied, will do best; but now and then you may expose the cervix most thoroughly and successfully by putting the patient in the Sims' position and separating the labia very widely with the fingers.

The proper speculum for.

I have known great harm to be done by the introduction of the sound in some of these cases. Besides the pain and the hæmorrhage that are likely to be induced, there is danger, when the tissues are devitalized, that it may pass into the peritoneal cavity.

Diagnosis.—It is only in the first stage of the disease that the different varieties of uterine cancer are difficult of recognition. Fortunately it is most frequently located in the vaginal portion of the cervix, which is readily accessible to physical exploration. If you are careful to remember and apply what I have said of the hæmorrhage, the leucorrhœal flow, the character of the pain, and the constitutional symptoms, you will not give a wrong diagnosis.

In the early stage.

In cervical hyperplasia, or corporeal cervicitis, the use of the sponge-tent, according to Speigelberg, dilates the part and distinguishes the lesion from the fibrous, or scirrhous cancer of the cervix, upon which it would fail to make an impression.

From corporeal cervicitis.

An intra-uterine fibroid might be attended with copious watery discharges that were offensive and bloody, but the sound and the conjoined manipulation would detect a tumor in utero. Moreover the larger size fibroids and polypi are almost never attached to the uterine cervix.

From uterine fibroids.

The same rule applies to fibrous polypi, which as a class, have a disposition to appear at the internal os uteri, and then to recede; which are not sensitive when a needle is thrust into them; which increase in size at the month, and which occasion expulsive pains like those of labor. There is however, a condition of degeneration of these fibrous growths which is styled sarcomatous, in which if the tumor sloughs away,

From uterine polypi.

or is removed, it grows again. These are the recurrent fibroids which are believed to be cancerous in their nature. So that, while in general we may say that a woman who has a uterine fibroid is in no danger of dying from cancer, we should be careful to qualify our diagnosis and prognosis in the case of these sarcomatous polypi.

From syphilitic ulceration.

In very rare cases syphilitic ulceration may destroy the uterine cervix, and eat its way through the rectal or the vesical septum, as the cancerous ulcer is prone to do. But the varying constitutional symptoms, and the clinical history of the case will enable us to discriminate between them.

Course and duration.—Although uterine cancer is a self-limited affection which, sooner or later, ends fatally, its course and duration are not constant. It may creep on insidiously, and continue for years without very serious impairment of the general health; or it may develop rapidly and run its course in a very few weeks or months. In all cases very much depends upon the period at which the ulcerative stage begins, the ability of the tissues to resist its inroads, the integrity of the general health and absorption of septic matters from the decomposing tissues and fluids.

The rapidity of its course is shown in the following case, for the notes of which I am indebted to the husband of the patient, Dr. P. B. Hoyt, late of Paris, Illinois:

Case.—I positively know that there was no local manifestation of the disease in the case of Mrs. H——, as late as the first of June, 1879. On the 20th of August, at her regular monthly period, she was taken with severe hæmorrhage, which continued with more or less severity until about the 20th of November. The character of the hæmorrhage and of the other symptoms led us to believe, that she was passing through the climacteric period, and therefore created no apprehensions.

The remedies, ipecac, hamamelis, and more particularly secale cornutum and sabina, controlled the hæmorrhage so well, that we were certain she would come through all right, nor did the hæmorrhage present any unusual appearance until about the middle of October, when she passed a number of very dark clots, attended with considerable pain in the back, and running down the left thigh. Sometimes these pains were very distressing but pulsatilla, and gelsemium, relieved her. Some days she passed as many as from twenty to forty of these clots. There were strong contractions of the womb which caused the most excruciating

pains. On the 18th of Nov. she was suddenly taken with bearing down sensations attended with shooting, stitching, burning pains, which she compared to hot needles run up into the abdomen, causing her to bend forward, and support the abdomen with both hands. She laid down at once, and I gave her a dose of belladonna 3. This entirely relieved the pain, we had visitors during the evening, and she was happy and cheerful as usual, she retired about 10.30 p. m., and slept quietly all night.

The next day about 9.30 a. m., she was dusting the parlor, I was sitting in my office across the hall, and the doors were open, when suddenly I heard her cry out; I sprang to my feet, ran into the room, and asked, "What is the matter?" Her answer was "those same pains that I had yesterday, have come again, only ten times worse." I assisted her to the lounge, and at once gave belladonna as before, but this time it did not control the pains. It was several hours before she became even comparatively easy. Suspecting something serious I proposed an examination, but the opportunity did not offer until bed-time. On introducing the finger, I was never more surprised. The os-uteri was indurated, and enlarged, until it was at least two and a half inches in diameter, and it and the whole cervix was covered with nodules, like little warts.

After carefully noting her symptoms, I commenced treatment with calcarea carb. every two hours, washing the parts with hot calendula water, and at night applied a cotton tampon, saturated with glycerine. My idea was, that if it was not purely of a cancerous character, the glycerine would reduce the induration, but it failed to accomplish this. I used at various times, as seemed best indicated, arsenicum alb., and arsenicum jodatus, silicea, and conium maculatum. I continued to apply glycerine medicated with the tincture of calendula, but to no purpose.

Dec. 31st, 1879, we visited Cincinnati and consulted Drs. Hartshorn and Wilson. Dr. Hartshorn's diagnosis was "probably cancer." He recommended an application of chemically pure nitric acid, and to give internally, arsenicum jodatus, conium, thuja, or any remedy which seemed best indicated from time to time.

The nitric acid treatment I did not approve of, because I felt sure that such strong applications would only aggravate the difficulty. At Mrs. Hoyt's earnest request I did make one application, under protest, however, and the result confirmed my judgment and was not repeated. I now at the request of Dr. I. R. Haynes gave her juglans cinerea 6, internally, and applied glycerine medicated with the tincture of the juglans locally. This caused an increase of the profuse watery discharge from the vagina. After using it two or three days I made an examination, and to my delight found all the nodules gone.

Two weeks previous to this we had visited Chicago, to consult Dr. Ludlam, who made a careful examination, and gave me his valuable advice for which I shall ever feel grateful, but his prognosis was decidedly unfavorable. When I found the nodules had disappeared, and Dr. Haynes having assured me that he had cured one case, and benefitted several others, I felt a little hope that his prognosis might prove untrue. But I soon found that the induration had not subsided in the least, and that the ulcer was increasing in size and depth, and the parts were very tender to the touch, with a continual bearing-down pain. Indeed there was a decided prolapsus.

At this time, the hips, back, thighs, and abdomen were very painful and tender, and the left thigh near the groin was much swollen. I now used the extract of hamamelis very freely, which mitigated the pain. A severe peritonitis now set in, which came near terminating her life, but by the local application of linseed-meal poultices, with the use of belladonna and aconite internally, we succeeded in reducing the inflammation, and she seemed better. There was, however, a great accumulation of fluid in the abdomen, which finally degenerated into pus, and was discharged per rectum the night before her death.

After the peritonitis had subsided, we found the left ovary enlarged and very sensitive, and this condition continued until she died. Her strength now failed, and I could see that she was sinking rapidly.

About five days before her death, she began to vomit, and no remedy was found to control it. The substance ejected was of a dark green color, almost black, and of an indiscribable odor. Towards the last, nothing was retained on the stomach for more than five or ten minutes, and finally after taking three or four spoonfuls of tea, she began to vomit worse than ever, and so rapidly that she could not raise it, and choked to death, at eight o'clock a. m., March 25, 1880.

The cancerous cachexia.

When the course of this disease is rapid it may carry the patient off before the symptoms that attend upon chronic cases have developed themselves. But when it has continued for months or years, and has extended to the neighboring organs, with ulceration and sloughing, fetid and ichorous discharges, severe hæmorrhage and intolerable suffering, the nutritive functions become impaired, there follows a species of slow poisoning, and the development of what is termed the cancerous cachexia. This cachexia is recognized by a peculiar earthy, or waxy, or tallow complexion of the skin, with a tendency to dropsical infiltration of the integument.

You must be careful however, not to confound it with copræmia, which is a form of blood poisoning that depends upon the retention and absorption of fæcal elements from the intestine, and which produces a sallow, dirty, hue, with unpleasant exhalations from the skin. I have known a prominent surgeon to pronounce a case as one of undoubted cancer, when the tumor and the peculiar complexion of the patient depended upon a large accumulation of fæcal matter. The case was afterwards cured by rectal injection that softened the mass and brought it away.

The copræmic and cancerous complexion.

In some cases the final result is hastened by the occurrence of pregnancy, or rather by labor or abortion. If the induration of the cervical zone of the uterus is very marked it may interfere with delivery, or resulting lacerations may cause a serious hæmorrhage, or facilitate a fatal sepsis. It has even happened that, under these circumstances, the entire cervix has been torn off during labor.

Influence of pregnancy and labor upon.

Prognosis.—The most that can be hoped for in any case is that the course of the disease may be stayed and its inevitable result postponed. For, even where the lesion is most decidedly local, and we remove it, the disposition to a recurrence is a characteristic and constant symptom. So that, whether the constitution is primarily or secondarily implicated, the result is the same. Cases of spontaneous recovery that have been reported, are exceptions to the rule, and are not likely to be multiplied in your field of observation. Cases that have been reported as cured by this or that remedy are not authentic.

It sometimes happens that a woman whose mother or sister may have died from cancer of the womb, or of the breast, has such a dread of this disease that we must not declare our diagnosis too early, or too decidedly. For a lack of care in this regard may develop the form of mania that Dr. Thomas styles carcinophobia, or a dread of dying from this terrible disease. On the contrary, but under the same circumstances with respect to heredity, a woman's mental and nervous condition may be such that she will not be satisfied unless you tell her she has cancer of the womb. It is not a fortnight since I was discharged from such a case because I could not find any trace of carcinoma, and had the conscience to say so.

Carcinophobia.

Many of you saw upon my table recently the case of a poor shop woman who had been under treatment for uterine cancer by a thief in the disguise of a doctor. Out of her scanty earnings she had paid the scamp two dollars for each local application, which was repeated twice in each and every week, for more than a year. And yet, as you will witness, there was not a trace of cancer to be found anywhere.

Case.

One mode of death from uterine carcinoma is shown in the case that I have just cited. Others die from fatty degeneration of the heart, from the supervention of cellulitis, septic infection, uræmia, phlebitis, and lymphangitis, with plegmatia alba dolens, and others still from inanition with marasmus.

Causes of death from.

Treatment.—In the local treatment of this form of cancer you should not forget that the affected organ is strangely intolerant of irritants. Indeed, it is a serious question whether the use of astringents, caustics, and stimulating washes, in cases where there was a suspicion of malignant disease of the cervix, has not really developed it. I have no doubt that the use of these harsh means has often hastened, if not really induced these morbid growths, and it is not impossible that the radical change in uterine therapeutics, which promises to put an end to the indiscriminate cauterization of the cervix, and to treat its diseases more rationally, will lessen the proportion of cases of cancroid degeneration, and perhaps of other forms of uterine cancer.

Whether Dr. Emmets' idea, that laceration of the cervix uteri, from being neglected is often the cause of epithelioma, and perhaps of other varieties of cancer, is true or not, if this method of treating these lacerations is generally adopted, the uterus will soon be exempted from injuries that have been inflicted blindly, and without regard to their ultimate effects. If "prevention is better than cure," and his discovery really diminishes the proportion of cases of this terrible disease, Dr. Emmet will have builded better than he knew.

Laceration of the cervix, and uterine cancer.

The objects to be met by local treatment in advanced cases of uterine cancer are, (1) to relieve the intra-pelvic pain, (2) to control the hæmorrhage, and (3) to disinfect the discharges.

Indications for local treatment.

The best means of filling the two first of these indications is the resort to hot water vaginal injections. In very bad cases, however, where the pain is chronic and insufferable, suppositories of opium or some other anodyne may be required. Iodoform mixed with almond oil, or with lard, one drachm to the ounce, may be applied by means of a cotton tampon; or a mixture of chloroform, glycerine, and sweet oil may be used in the same way. Occasionally we may take advantage of the anæsthetic properties of very cold applications, and Aran's expedient of passing a cylindrical speculum and filling it with broken ice may relieve the pain more promptly and decidedly than anything else. Local anæsthesia by the ether-spray, or the use of the styptic colloid with which morphia has been mixed, may do best.

In some cases both the pain and the hæmorrhage may be controlled by the local employment of hamamelis; and the styptic cotton is an expedient that is worth remembering in this connection. Rest, during menstruation especially, and sexual abstinence will often prevent severe paroxysms of pain and of flooding; and care as to the kind and degree of exercise that is taken will have the same effect.

To overcome the fetor of the discharges, various means are in vogue, and you may need to try them all. Acetic acid, lemon juice, carbolic acid, pyroligneous acid, the chloride of lime, the sulphite of soda, thymol, bromine, iodoform, the perchloride of iron, the chlorinate of soda, or a weak solution of the iodide of lead. Glycerine is an excellent anti-septic and will readily mix with most of these substances as a vehicle. It is very important to keep the parts clean, and for this purpose a little powdered alum, a few drops of creosote, or of a weak solution of the chlorate of potassa may be put into the water with which the vagina is syringed. This precaution not only keeps the parts clean, but it prevents infection from putrid absorption.

I will not detain you with any extended remarks upon the medical treatment of this disease. For, although it is not unusual to find reports of cures that are claimed for internal remedies, I believe that such a result has never really been accomplished. As you may suppose, the lesion being seated in an organ with a wide range of sympathies, and with functions that are peculiar, and the tendency

The medical treatment.

of the disease being always to involve other organs, and finally to implicate the whole economy, a great variety of indications may be presented, and a large number of remedies called for. When these indications present themselves you will affiliate the remedy, or remedies, to the case in point, as nearly as possible.

There are a few remedies, however, which seem possessed of a clinical, if not of a curative relation to the cancerous diathesis. These are arsenicum jodatus, hydrastis can., conium, juglans cin., platina, phytolacca, kreosotum, and cod liver oil, if it can be called a remedy. Their use is very important, not only because they modify the dyscrasia, and thus prevent the more rapid development of the disease, but also because they may postpone its recurrence, when surgical means have been resorted to.

As I shall tell you when I come to speak of epithelioma of the uterus (see Lecture XLIII), there seems good reason to place reliance upon the arsenicum jodatus especially. Here is a case in point:

Case.—Mrs. W. ——, aged 45, a hospital patient, gave the following history; she is a widow, but has had no children, and no miscarriages. Her menses ceased five years ago. She inherits the cancerous diathesis, and is positive that a sister died of cancer of the womb. She dates her illness from an injury which occurred twenty-five years ago. While lifting a heavy weight she felt something give way within the lower abdomen. This sensation was accompanied by a report, or "snapping," and she insists that she has not felt comfortably for an hour since that time.

She has had a more or less constant discharge from the uterus and the vagina, which is of a very offensive and corrosive character, and the internal genital organs are the seat of a burning pain, with extreme and almost insufferable tenderness to the touch. Since the menses ceased she has never had any hæmorrhages. The abdomen is very sensitive, and after severe attacks of pain in the uterine region she sometimes passes a gill or more of pus, from the vagina. The stomach and abdomen are so tender and sore, that the weight of her own hand causes great pain when placed upon them.

Sometimes these symptoms almost entirely disappear and the suffering is transferred to the mouth, the throat and the stomach. Again, she has a terrible burning, itching, and crawling sensation over the whole body, as if needles were sticking into every pore of the skin. Then red bunches, which vary from the size of a grain of wheat, to that of an egg, and which also burn and itch severely are formed here and there.

Before entering the hospital she had been under the treatment

of various physicians, chiefly for uterine catarrh and ulceration. She has worn pessaries and medicated cotton, and has been cauterized very severely for months together. She says that, on one occasion after the cotton had been applied as a means of introducing some very severe agent, its removal brought away the lining membrane of the vagina, and not in strips or shreds, but "the whole of it together."

Local examination with the speculum revealed a high state of inflammation of the vaginal portion of the cervix. The posterior lip of the os uteri was the seat of a ragged looking and very vascular ulceration, the anterior lip was knobby, swollen, and irregular. By the touch the cervix was found to be fixed and immovable, and very great distress followed the introduction of the finger into the Douglas pouch. The vagina was very narrow and exceedingly sensitive, although its walls were indurated, even down to the vulva. This condition had rendered it impossible to pass any but the smallest speculum.

This woman remained in the hospital for three months under treatment, which consisted of the local use of the carbolized cosmotine (applied without the speculum) and internally, arsenicum, jodatus, in second decimal trituration, she also took lachesis 30, a few times. At the end of that time her health was so much improved, that she went to the country where she remained for a year. Then she came back to the Hospital in much the same condition. But several months of careful treatment and nursing was ineffectual in staying the progress of the disease.

Feb. 10, 1881. Another year has passed, and her general health is improved, but locally the colpitis and the vaginal induration are no better. The cervix uteri which is nearly gone, is ulcerated, tunneled, and excavated, with hard margins and extreme tenderness, the old feted ichorous discharge has not lessened in quantity or improved in quality.

She has found more benefit from the internal use of arsenicum jodatus 3, than any other remedy, and is satisfied that, without it, she must have died long ago.

The surgical treatment.

The question of surgical interference, whether by the excision of the diseased part, or the extirpation of the uterus, revives the old idea that in some forms of cancer, the disease is local before it becomes general, or constitutional. If the structural change is limited to the vaginal portion of the cervix, and to the lining membrane of the os and cervix uteri, and there are no evidences of a dyscrasia, it may be expedient either to amputate the cervix, or to remove the diseased mass by Sims' method, which I shall describe in my next lecture.

Extirpation of the uterus in.

The operation for the total extirpation of the uterus in malignant disease is a very serious one, and should not be undertaken in ordinary cases. Its risks are fearful, and thus far at least, the results scarcely warrant its performance. The difficulties in the way do not concern the operation itself, so much as the impossibility in a given case, of knowing that the disease is primitive and purely local, and of deciding that it is limited to the uterus. For, if the constitution is involved and the cachexia is already established, or if the infiltration has invaded the broad ligaments, the pelvic cellular tissue, the peritoneum, the rectum, the bladder, or the glandular structures, its recurrence is inevitable. The whole issue hinges therefore, upon the strict localization of the lesion in the uterus. If you are satisfied upon this point, the way is clear for the resort to hysterotomy, or more properly, to hysterectomy. You should be careful not to confound the question of ablating the uterus in carcinoma, with its removal in the case of an interstitial, or of a sub-peritoneal fibroid.

"The first extirpation of the carcinomatous uterus was made by Andreas a Cruce, in 1650. In 1812, Gutberlet operated through the abdominal walls. Langenbeck and Delpech operated by this method, the latter successfully. Langenbeck and Sauter in 1822 operated through the vagina. Sauter's operation was successful. In 1828 Blundell operated successfully per vaginam. Recamier, in 1829, modified the operation per vaginam by ligature en masse of the lower part of the broad ligament by means of a curved needle. Delpech, in 1830, proposed a combination of the vaginal and abdominal extirpation. In 1876, Hering operated successfully without ligating the broad ligaments. Freund's operation, 1877, differs from all previous operations. He was the first to close the wound from the vagina into the abdominal cavity by sutures."

Freund's operation.

Freund's method of hysterectomy is partly abdominal and partly vaginal. An incision is first made along the linea alba, as in ovariotomy, but care is taken that its inferior extremity does not extend so far through the peritoneum as it does through the integument. The object of this precaution is to avoid the separation of the peritoneum from the anterior wall of the pelvis. The body of the uterus is then seized and held securely by the fenestrated ovariotomy forceps. The ovarian ligaments and the Fallopian tubes are next ligated, but in order that one thread shall be on each side of the uterine

artery, for its ligation when necessary, one end of each ligature is brought out through the abdominal wound and held, while the other end drops toward, and finally into the vagina. A trocar needle is then passed from the peritoneal cavity to the vagina and back again on each side of the broad ligament. This ligature, which does not include the Fallopian tubes, the ovarian ligaments, or the round ligaments, enters the vagina and emerges from it so as to include very little of its tissue; after which it is tied, and the ends are cut off. The next step, the bladder being protected by a sound, is to make a transverse incision through the part of the peritoneum which lies upon the anterior surface of the uterus, after which a similar incision is made through the retro-uterine peritoneum. Loops of silk are then passed through these peritoneal flaps, so that they can be held out of the way while this tissue is being dissected from the uterus. The connective tissue is separated from the cervix by the finger, or by the handle of the scalpel. Having reached the roof of the vagina, or nearly so, the utero-vaginal septum is divided by a curved bistoury, and two fingers having been inserted in order to steady the organ, the uterus is finally separated and removed. The smaller arteries are secured by the ligature or by torsion; all the loops and ligatures are brought down into the vagina; the abdominal incision is closed as in ovariotomy; and the vagina is filled with a large tampon or pledget of carbolized lint, which is kept in place by a proper bandage.

Bardenhauer's method.

This operation, which in the hands of its author gave a mortality of 73 per cent., has been variously modified and improved upon. Bardenhauer combined the abdominal and the vaginal methods of extirpation, by first detaching the cervix from below the vaginal roof; then opening the abdominal cavity and drawing the womb upwards; and afterwards, instead of ligating the broad ligaments *en masse*, tying each vessel separately, and finally by draining the peritoneal cavity through the vagina. This plan shortened the operation, made the hæmostasis more perfect, and by exposing the ureters to view, obviated the risk of their being ligated or otherwise injured.

But in any manner, and by whomsoever it is made, the operation of removing the entire uterus, including its supra- and infra-cervical portions, is a very severe and dangerous operation. It is

bad enough to make a supra-vaginal hysterectomy and to amputate the womb at or about the internal os-uteri, but you should not forget that even that operation is not to be compared with the complete extirpation of the organ by way of an abdominal incision. These two terrible expedients are often confounded in the minds of physicians, and are spoken of so flippantly in our day, that those who are rash and inexperienced are sometimes tempted to undertake them.

Caution.

Of vaginal hysterectomy, and especially of Pèan's mode of removing the uterus without the use of the ligature, I shall have something to say under the head of Uterine Fibroids. It must suffice to state in the present connection, that this form of uterine extirpation, whenever it is practicable, is preferable to the supra-pubic method because of the readiness with which the separation of the organ is effected, the hemorrhage controlled, and abdominal drainage secured. The risks are also lessened by avoiding a section of the abdominal wall and all injury to the peritoneum above the pelvic brim.

Vaginal hysterectomy in

The consideration of Sims,' Schrœder's, Baker's, and other methods of surgical treatment for epithelial cancer of the uterine cervix, must also be deferred to another lecture. (See Lecture XLIII, page 717).

LECTURE XLIII.

EPITHELIOMA OF THE UTERUS.

Epithelial cancer of the womb. **Two** ***cases.*** ***Nature*** **and** ***clinical history of.*** **Pathological anatomy of. Insidious course of.** ***Symptoms.*** **The cachexia.** ***Diagnosis*****: clinical observation** ***versus*** **the microscope in: from cervical hypertrophy, and from uterine polypi and fibroids.** ***Prognosis.*** **Effect of local irritants.** ***Treatment*****, surgical and medical.**

Those of you who were present at my sub-clinic, on Wednesday last will remember that, of the eight women who were placed upon the table for local examination and diagnosis, two of them had epithelial cancer of the womb. I have thought to make those two cases the text for some remarks upon this form of uterine cancer.

Case.—Mrs. T——, aged fifty-one, ceased menstruating about ten years ago, and four years ago her present illness began.

She complains of intra-pelvic pain and distress, bearing-down sensations, increased desire to urinate, and prostration and debility, that are very much aggravated by exercise. She is subject to a leucorrhœal discharge, which is not very copious, neither is it offensive nor excoriating in character. Within a short time this discharge has become sanguineous, and the flow is perceptibly increased by straining at stool, by urination, and by ordinary exercise.

Local examination showed that the cervix uteri was considerably tumefied but not discolored. The anterior lip was denuded of its epithelium and covered by a papillary growth, which was of a very dark red hue, and which bled upon the slightest touch.

The outline of this formation was serrated and irregular. There was no evidence of scirrhous deposit in the surrounding portions of the cervix. This patient was also the subject of a large umbilical hernia.

The remedy prescribed was arsenicum jodatus, 3d dec. trituration, to be taken three times daily. An injection was also ordered, consisting of castile suds, glycerine and warm water.

Case.—Mrs. ——, fifty-three years old, is the mother of eight children, the youngest of which is eleven years old. She says she has had a falling of the womb for twenty years. She complains of bearing down sensations within the pelvis, and pressure upon

the rectum whenever she is upon her feet, and whenever the bowels are moved. She has had a leucorrhœal discharge which is slightly offensive, and which consists of a bloody mucus; and which is increased by exercise. With the displacement, brought on by standing or at stool, there is a great deal of burning within the lower pelvis, which is sometimes almost intolerable. The menstrual flow ceased six years ago.

Local examinations showed the uterus to be very much prolapsed; the body of the organ was mobile, but the cervix was anchored in front, and considerably deformed posteriorly. It was

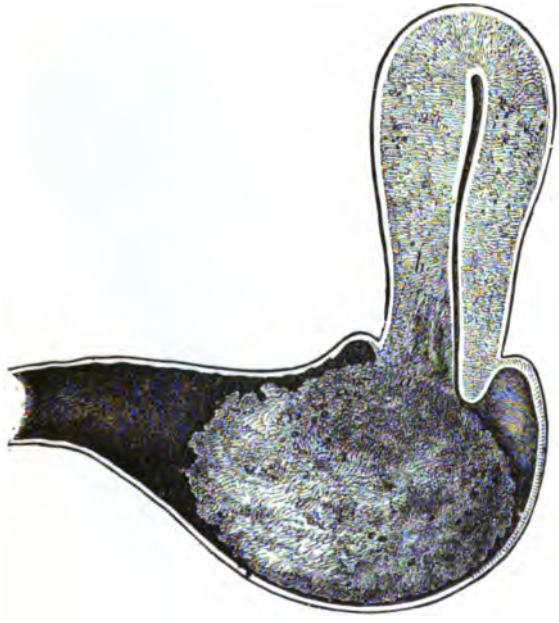


FIG. 115. Cauliflower excrescence (Sims).

also nodulated, of a purplish hue, with a patch of epithelial ulceration of the same villous character as was observed in the former case. The ulceration was even more irritable and vascular than in Case 8,162, but the same treatment was prescribed.

Nature and Clinical History.—These two cases illustrate a form of uterine cancer which is interesting, not only because of its comparative frequency, and its insidious character, but also because it is the only form of this terrible disease, if indeed there is one, that is curable.

You remember the villous coat of the vaginal portion of the

cervix uteri, and the beautiful arrangement by which each papillus is covered with epithelium. It is these papillæ, and this delicate investing membrane, which first become the seat of the morbid process in epithelioma of the neck of the womb. The former develop inordinately, and their loops of vessels and nerves supply the means for the exuberant hypertrophy of the mucous membrane which characterizes the disease, and which finally results in the ulceration and disintegration of the tissues involved.

Pathological anatomy of.

FIG. 116. Epithelioma of anterior lip (Sims).

This is the local beginning, the distinctive lesion of this variety of uterine cancer, which some very excellent authorities insist is always a local disease, the "*cancroid*," before there are any constitutional symptoms or complications whatever.

Epithelioma, or papilloma of the uterus, is many times more common than the true cancer of the womb. It usually begins upon one or both lips of the cervix, in the form of a sort of tubercle, or prominence, which grows more or less gradually towards the os-uteri. This tubercle spreads, flattens out, is pretty hard to the feel, and bleeds very easily when touched. If it grows

rapidly the papillæ become swollen and enlarged, and take on the form of exuberant granulations that may fill the cervix like a cork, or find their way into the uterine cavity, or lie in, or crowd, the vagina in the form of what is commonly known as a "cauliflower excrescence."

The rapid proliferation of the cells covering the papillæ, extends to the pavement epithelium on the free surface of the cervix and between these prolongations. When they have been so quickly and imperfectly formed, the cells easily take on the morbid pro-

FIG. 117 (Sims).

cess, and inflammation or ulceration follow. So that if the growth is hastened, the local lesion becomes more serious and profound, and the general health begins to be impaired.

You can readily understand why this affection may exist without the patient or any one concerned having thought of it. Its usual course is to creep along insidiously. Neither of the patients whose clinical history has just been read to you, have, as yet, any idea of the nature of their disease, which at their next visit, perhaps, must be explained. I

Insidious course of.

have said, in their hearing, that they have a form of carcinoma, and that satisfies them for the present.

Symptoms.—During the early, or indolent period, there are few symptoms that direct attention to this disease, and, in fact we seldom see it until it has passed into the ulcerative stage. The pain complained of is never acute, and is often lacking altogether. When it is present, it has a burning, stinging character, and is almost always worse after exercise, coitus, coughing, sneezing, or straining at stool. If the cervix happens to lie forward against the neck of the bladder the chief distress is likely to follow urination.

The pain.

The vaginal discharge is not so constant nor so characteristic as in the other varieties of uterine cancer. In the early stage it is often absent, and it is not very rare to meet with cases, especially after the climacteric, in which, although the disease may be far advanced, there is no increase in the amount of mucus that is secreted. But, when the vegetations are very luxuriant, and the case has taken on the form of the cauliflower excrescence, or the "mushroom cancer," there will be a more copious and abundant flow of a watery mucus, or serum, that may deluge the patient, and cause the growth to shrink, to look very pale, and, perhaps, almost entirely to disappear for a time.

The discharge.

The watery discharge usually, but not always, has an offensive odor, and is more or less corrosive in its character. At first it is not bloody, but, by-and-by, as the ulceration progresses, and the little loops of vessels within the epithelial buds become involved, the flow is more sanguineous. Still, as a rule, these cases are not accompanied by such alarming hæmorrhage as is common to the medullary cancer, and in rodent ulcer of the womb. The watery flow sometimes causes an intolerable pruritis.

The hæmorrhage.

Upon passing the speculum very carefully (as you saw me apply it,) so as neither to cause pain, nor to bring on a hæmorrhage, you will observe the growth. Its surface should be mopped off in a very delicate manner and deliberately, and the patient instructed not to resist or to strain against the instrument while it is in situ, else the flow of blood will prevent you obtaining a correct view of the case. It may

Inspection of.

happen that the vagina itself is either so involved, or so filled with the growth, that it is not expedient to use the speculum, in which case we must rely upon the touch.

Observe that, unless it is far advanced, this "villous cancer," as Rokitansky styles it, has not the form of an excavated ulcer, but of a growth that is super-imposed upon the cervix uteri. (Fig. 118). Its outline may vary, and there may be two or more distinct portions of it, but it's character is that of the cock's comb

FIG. 118. Epithelioma of both lips of the cervix (Sims).

granulations which sometimes spring from the surface of ulcers, or of exuberant vegetations that may grow to almost any size. If the ulceration has progressed very far, the surface of the growth may be furrowed and bathed with pus. If caustics have been used, or a pessary worn, or the parts very much irritated from any cause, the lesion may have spread over the whole circumference of the cervix and to the roof of the vagina. (Fig. 114.) In rare cases it extends to the meatus urinarius, where it causes great suffering from strangury. We had a very marked case of this kind (No. 1,763) in my clinic last winter. At other times, either through a continuous extension of the lesion, or by inoculation from the leucorrhœal discharge, it may reach the vulva. Instances have occurred in which the growth has begun upon the labia, and finally extended to the uterine cervix.

Extension of the lesion.

Some months, or even years, may pass before the cancerous cachexia declares itself. The length of the interval varies with circumstances. As a rule, the disease develops more rapidly at, or about the menopause, in consequence of rapid child bearing, or prolonged lactation, in women of a hæmorrhagic diathesis, and of an impoverished constitution, and especially in those whose domestic life has been unhappy or unfortunate. The delay in the development of the worst symptoms and results of this disease, in a considerable proportion of cases, has given rise to the belief that this form of cancer is sometimes radically cured. The average duration of confirmed cancer of the womb is shorter than that of any other organ.

Development of the cachexia.

The general symptoms, which indicate that the nutritive system, especially, has become depraved, are a pallor of the face, the tallow complexion, with swelling and puffiness of the features and a lack of expression, or a pinched, anxious and care-worn look; weakness and debility, loss of appetite and disgust of food; emaciation and an aphthous tongue; palpitation and cardiac disturbance upon slight emotion or exercise; alternations of constipation and diarrhœa; wakefulness and nervousness, with irritability; paralysis, or coma, and even convulsions; increased fetidity of the discharges; dropsy of the extremities, with menorrhagia, and a kind of hectic fever, with signs of blood-poisoning, and a quick pulse, as in phthisis pulmonalis. Exceptionally these formidable symptoms run their course very rapidly, in which case, if the first stage of the disease has escaped detection, the poor patient may die almost before anybody realizes that she is, or has been in danger. But, usually, if she is not already very much enfeebled, their course is less rapid and alarming, and there is ample opportunity for confirming the diagnosis and for doing whatever we may for her comfort.

Nutritive derangement.

Diagnosis.—Even when this stage of affairs is reached, it is not always an easy thing to differentiate this form of uterine cancer from affections with which it may be confounded. For this reason I urge you to study this subject very closely, and more especially also because in the whole range of medical experience, there is, perhaps, no disease in which the prognosis turns upon the diagnosis with greater precision and delicacy.

Importance of.

Do not forget, therefore, that, in this as in all forms of uterine and ovarian disease, where it is a question if tumors, or bits of tissue, discharges or ulcerations, are cancerous in their character, it is much safer to depend upon what you will learn from careful clinical observations than upon what you can detect with your microscope. For, invaluable as that instrument is in the diagnosis of renal or other diseases, too much has certainly been claimed for it in the detection of malignant disease of the womb.

Clinical observation vs. the microscope.

The educated "touch" is a better means of diagnosis, in epithelioma of the cervix especially. The peculiar feel of the growth, its form and friability, the ease with which one may rupture the thin covering of the blood-vessels, the swollen and sometimes nodulated condition of the neck of the womb, and the very appearance of the finger when it is withdrawn, are of real diagnostic value.

The flow may have an offensive odor in case of a partially detached or decomposing polypus or placenta, or from the decomposition of retained blood; or it may be very copious and watery where there is an intra-uterine fibroid, or from hydatids; or it may be hæmorrhagic from chronic metritis, sub-involution, uterine polypi, membranous dysmenorrhœa, abortion, fibromata, or varicose ulceration of the cervix; but the signs of the cancerous infection will be lacking in all these conditions. These include the peculiar fragility of the os and cervix uteri; the development of other tumors, either upon the neck of the womb or elsewhere; and the anæmic and straw-colored hue of the skin. For, although one of them may be lacking, the others will not, in a case of genuine cancer of the cervix that has passed beyond the indolent stage.

Reliable physical signs.

Epithelioma of the uterine cervix is a very rare affection before the thirtieth year; and physicians of large experience have never seen it in a woman who has not been pregnant. As in both of the cases under review, it is most common at and after the climacteric.

Age etc.

You may know a case of simple inflammation and hypertrophy of the glands of the cervix, from one of epithelioma in its first stage, by the following symptoms: A cluster of glands, and not a single one only, are certain to be involved in glandular inflam-

mation; the mucus is stringy, and has the properties of that which is secreted by these glands in health; no matter how large the glands have become, they remain soft and do not bleed easily when they are touched; and there is a line of demarcation between them and the cervix, that is lacking in epithelioma.

Diagnosis from cervical hypertrophy.

The diagnosis of cauliflower excrescence, within the cervix, from fibrous and mucous polypi of the uterus, is sometimes very difficult. Here again, we must rely chiefly upon the touch. If the growth that is felt is short and soft, and shaped like a raisin, it is a mucous polypus; but if it is long and narrow, it is probably a fibrous polypus. A polypus may retract,

From uterine polypi.

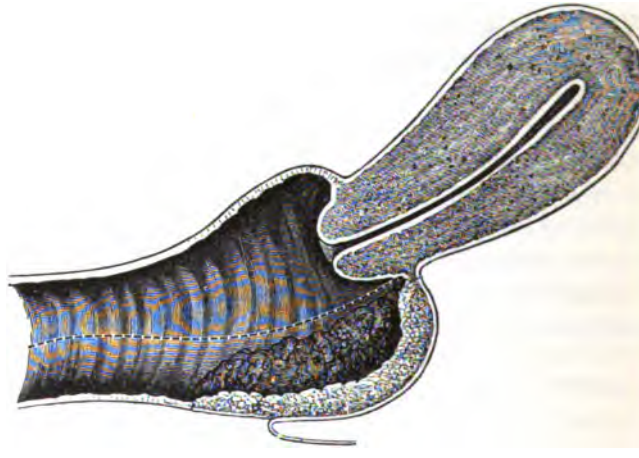


FIG. 119. Vaginal epithelioma (Sims).

and bleed only when it lies within the cervix, which is not true of a papilloma. Besides, there is nothing about a polypus of any kind which gives the sensation as if it was brittle, and could be broken off, as there is in these malignant excrescences and papillary outgrowths.

In epithelioma, the granulations are sessile, and, as I have already shown you, are found in patches of considerable size. The innocent growths that sometimes, although more rarely, follow a laceration of the cervix, are more fibrous and less vascular, and do not ultimately develop into a form of cancerous ulceration.

As in examining for other varieties of cancer, you should not

forget the significance of the family history, nor of the co-existence of morbid growths in other localities. In a case that was sent to me, during the last summer, from Ontario, the patient had had an epithelioma removed from the tongue a year before, and, some months before coming to Chicago, had found a suspicious tumor in her right breast.

The family history.

Where the local affection is far advanced, you will be very apt to find more or less swelling of the inguinal glands, and fixity, or anchorage of the cervix as a result of the cancerous infiltration, just as in ordinary uterine carcinoma.

Prognosis.—If this affection, whether it be local or general, or both, is really cancerous, the prognosis, in so far as the ultimate result is concerned, is, of necessity, fatal. Where cases seem to have been cured, the disease either returns or is translated to another tissue, or there has been an error in the diagnosis.

Guerin says*: "I have seen old women who have lived five or six years with an epithelioma of the cervix uteri. Those who live the longest are those who have escaped the application of topical irritants.

In one of our cases (No. 8,164), the probabilities are that the development of the disease, from this date forward, will be very rapid: (1,) because a local examination shows that the cervix is immovable, from the cancerous infiltration; (2,) because the neck of the womb is nodulated by reason of the deposition of the same morbid material into its substance; (3,) because the patch, which in this case is secondary, involves the pavement epithelium chiefly, and may therefore pass more readily into the ulcerative stage; and (4,) because, when once the process of destruction of the cervix begins, its course will, in all probability, be more speedy from the fact that it is already the seat of carcinomatous disease. The co-existence of these two structural forms of uterine cancer proves their real identity.

Treatment—The surgical treatment of epithelioma of the uterus is in the best repute with those who hold most strongly to the theory that in its early stage the disease is local, and may, therefore, be gotten rid of by its destruction or removal. The first of these indi-

The surgical treatment.

*Lecons Cliniques sur les Maladies des Organes Génitaux Internes de la Femme. Par A. Guerin. Paris: A. Delahaye, 1878, page 507.

cations can be met by the use of such agents as the actual cautery, or the application of fuming nitric acid, or of chromic acid; and the second by amputation, either with the electro-galvanic knife, the curette, or the ecraseur.

The objections to the use of the electro-cautery in the removal of an epithelioma of the cervix uteri are that it is almost impossible to avoid injuring the vagina and the urethra, and that there is great risk of primary and secondary hæmorrhage. Still the Paquelin cautery may sometimes be used with the Sims' speculum.

Dr. Sims' plan is to exsect the cervix piecemeal. His opera-

FIG. 120. After the exsection.

Dr. Sims' operation.

tion is not one of mere superficial amputation, but of complete extirpation of the diseased part. In a very interesting case, the details of which you will find in the *American Journal of Obstetrics*, (Vol. XII, page 455.) the growth was attached to the anterior lip of the cervix. After its removal the neck of the womb presented the appearance shown in Fig. 120.

Twelve months after the operation the patient returned to Dr. Sims with a recurrent epithelioma that was located on the posterior lip of the cervix. Fig. 121.

Dr. Sims says:

"The most unfavorable cases for operation are those in which the epitheliomatous granulations penetrate deeply into the cavity of the uterus, and which can be readily removed with the curette. (Fig. 122) represents just what I mean. In such cases the mass of epithelioma projecting into the vagina is always easily broken down with the curette. There is but little work for the scissors, and more for the knife. The granulations in the body of the womb are removed in great masses with facility, and unfortunately, in all such cases, the hæmorrhage will be profuse, and if the operator is not prepared to arrest it promptly it might become alarming and even dangerous. It is always of a bright arterial color, and seems to pour out from a thousand little arteries; for doubtless each filament of granular matter has its arteriole hypertrophied according to the nutriment necessary for fungoid growth."

FIG. 121. Recurrent epithelioma of the cervix (Sims).

Fig. 122 represents a rapidly fatal case of epithelioma of the cervix.

I will quote the conclusions which are set forth by Dr. Sims in his excellent monograph:

1. "Do not amputate or slice off an epithelioma of the cervix uteri on a level with the vagina, whether by the ecraseur or by the electro-cautery.

2. Exsect the whole of the diseased tissue, even up to the os internum if necessary.

3. Arrest the bleeding, when necessary, with a tampon of styptic iron, or alum cotton-wool.

4. Be careful not to apply the tampon with such force as to lacerate the excavated cervix uteri.

5. When the styptic tampon is removed, cauterize the granulating cavity from which the disease was exsected, with chloride of zinc, bromine, sulphate of zinc, or some other manageable caustic, capable of producing a slough.

FIG. 122. Epithelioma of the cervix and cavity of the uterus (Sims).

6. After the removal of the caustic and the slough it produces, use carbolized warm-water vaginal douches daily till cicatrization is complete.

7. After the cure, put the patient on the use of arsenic as a protection against the cancerous diathesis, and urge the importance of examination every two or three months for the purpose of detecting the recurrence of the disease.

8. Then if fungous granulations or knobby protuberances not larger than a pea are found, lose no time in removing them; and treat the case afterwards with caustic just as in the first instance.

9. Almost every case may be benefitted by operation, even when there is no hope of giving entire relief."

It is sometimes a very serious question to decide upon the propriety of resorting to these fearful expedients, more especially because the "localists," as they are called, are not always justified in asserting that, at any period whatever, the disease is wholly confined to the cervix uteri, without in the least involving the general constitution. And even if we were sure of it in the very incipiency of these growths, not one in a thousand of them is brought to our professional notice before the cancerous infection has taken place. It is not a parallel

Qalifying indications.

FIG. 123. An epithelioma in the field of the speculum (Sims).

case with that of the "smoker's cancer," on the lip, where we can see, and watch, and then remove the suspicious-looking tubercle as soon as it begins to form, and can afterwards repeat the experiment as often as is necessary.

You may depend upon it, that the surgical instinct is very apt to lead one astray, and under the circumstances in which these patients come to us, to tempt us to promise too much for them And moreover, when operations for the removal of this form of cancer are made, after the general system has become involved, they certainly tend to hasten the course of the disease. I have seen cases of this kind in which I would no more think of operating with the electro-cautery, the knife, the curette or the ecraseur,

than I would expect to cure a case of malignant diphtheria by stripping the membrane from the throat and fauces, or a case of anginose scarlatina by chopping off the tonsils.

The local treatment that is permissible, at least in my own judgment and experience, is such as will tend to restrain the hæmorrhage, if it is excessive, and to soothe and assuage the intra-pelvic pain and distress. But we must be careful, at least in some cases, not to seal up the watery discharge too suddenly and entirely, else the suffering will be very much increased. The local use of hamamelis, hydrastis, calendula or thuja, with glycerine and water, often answers a very good purpose. All straining at stool, or in urination, should be carefully avoided and remedied. The bad odor of the discharges may be relieved by weak solutions of the chloride of lime, the permanganate of potash, or carbolic acid, or, in a domestic way, by pulverized charcoal, yeast, or lemon juice. To prevent re-infection, the parts should be kept clean, and the clothing also.

The local treatment.

Concerning the medical treatment, I am compelled to say that there is not upon record a single well authenticated cure of this disease by any remedy or remedies. A radical cure is not to be expected. And yet, if we begin in good season, and continue perseveringly, and if the constitutional symptoms are not too grave, nor the course of the disease a very rapid one, very much may sometimes be done to retard its development and to delay its fatal progress.

With this end in view, my own experience has led me to place my chief reliance upon two or three remedies, the first of which is the arsenicum jodatus. I usually prescribe it in the third decimal trituration, to be taken from one to four times during the day; and I really believe that through its employment some of my patients with epithelial cancer of the womb have been kept in a tolerably comfortable condition for months, and, in a few cases, for years, before the inevitable result has finally overtaken them.

The second of these remedies is the mercurius corrosivus 6 which seems especially applicable to cases in which there is either a taint, or a strong suspicion of syphilis, and also where the lesion is located, as it is in very rare instances, about and within the orifice of the urethra. In the case to which I have already referred (No. 1,763), the effect of this remedy was very marked and persistent.

You will find the history of this case in one of my clinics that was published in the *United States Medical Investigator* for December 1, 1876. Three years and a half have now elapsed since this patient first came to us, but she is still active and comparatively well.

Other remedies are merc. jodatus, nitric acid, natrum mur., kreosotum, phosphorus and silicea.

In one case which has been under our observation in the hospital for three years, the chief complaint has been of the itching and burning of the external genitals caused by the discharge that came from a cervical epithelioma. Under the internal use of arsenicum jodatus 3., and the local application of the carbolized cosmoline, which she applies once or twice daily, and sometimes oftener, that symptom has been kept under control.

The curette.

Before dismissing you I must remind you that the scraping of the part down to the healthy tissue by the dull curette, is a justifiable resource if the lesion has not extended too deeply toward the peritoneum, and if you use it carefully and in a good light, the parts being irrigated meanwhile with hot water.

Dr. Baker's operation.

Still another expedient is what is known as Dr. Baker's operation, which consists of applying the thermo-cautery at a red heat. When this is thoroughly done the patient is put to bed and left undisturbed. The hemorrhage will have been controlled, and there is no need of subsequent dressings. The slough is cast off in about a fortnight, leaving a granulating surface. The relief that is claimed may extend from a few weeks to several years. I shall speak of vaginal hysterectomy under the head of uterine fibroids and sarcomata.

LECTURE XLIV.

OVARITIS.

Ovaritis. Synonyms. Causes, medical, mechanical, epidemic, traumatic. Symptoms. Prolapse of the ovary. Peritoneal ovaritis. Dysmenorrhœa and menorrhagia in. *Case.*—Gonorrhœal do.

Inflammation of the ovaries has been designated in medicine as ovaritis, oöphoritis, oaritis, ovarite, and ovarian folliculitis. There are two excellent reasons why you should study the medical history of this affection most carefully. In the first place, the disease occurs more frequently than is generally supposed; and in the second, our literature is lamentably deficient in respect to its pathology and treatment.

Ovaritis may be acute or sub-acute. Some authors speak of a chronic variety, but this is included in the sub-acute, which is the more common form of the complaint. Indeed since they differ only in severity and duration, one description must answer for all. Most authorities are agreed that the left ovary is more frequently inflamed than the right one. Out of forty cases collected by M. Chereau, the affection was double in four cases, seated in the right ovary in eleven, and in twenty-five cases in the left one. Tilt found the right ovary inflamed in but five out of seventeen cases. M. Tanchou suggests that the nearness of the left ovary to the rectum, and the mechanical pressure of fæcal matters upon it, may account for its greater liability to inflammation.

The sub-acute form most frequent.

Causes. — Ovaritis is rarely an idiopathic affection. It is liable to occur immediately before, during, or immediately subsequent to the appearance of the catamenia. In many cases, every return of the menstrual period is characterized by marked symptoms of ovarian irritation and inflammation. The ovaries bear much the same relation to the uterus, that the Malpighian tufts do to the tubes of Ferrein and Bellini in the kidneys. Bearing in mind this intimate functional relation, you will readily perceive that amenorrhœa, or retention

Generally symptomatic.

of the menses, from occlusion of the vagina, by an imperforate hymen or os, or atresia of the vagina, or of the uterine cervix, would be likely to induce congestion of the ovaries, as well as of the uterus and Fallopian tubes. The repletion occasioned by the non-exit of the menses might be harmful in various ways, but the most painful symptoms incident thereto would be those of ovarian inflammation.

A sudden suppression of the menstrual flow, as from cold, or coitus, has sometimes caused a severe attack of ovaritis. It may be due to spasmodic, obstructive or mechanical dysmenorrhœa, arising from partial obliteration of the uterine cervix. It is a frequent consequence and complication of membranous dysmenorrhœa; and Drs. Rigby, Simpson, and others treat of a variety of painful menstruation under the title of Ovarian Dysmenorrhœa. If the monthly return is characterized by very considerable suffering, neuralgic headache, fugitive and erratic pains, and hysterical symptoms, one may suspect that the focal point of the disorder is in the ovary.

Ovaritis from dysmenorrhœa.

There are perhaps few examples of menorrhagia of long standing that are not dependent upon or associated with ovaritis.

A frequent cause of the disease under consideration is the improper and harmful use of emmenagogues, which are given with a view to relieve menstrual suppression, or to induce abortion. The resort to mechanical expedients for the same purpose may produce a like result. These villainous appliances all act as irritants to the delicate structure of the ovary, tending to derange its innervation, circulation and nutrition, and thus, directly or indirectly, to induce the inflammatory process. Inordinate sexual indulgence, especially after prolonged or unusual abstinence, may cause ovaritis. I have met with several examples of this kind in women whose husbands had but just returned home after a long absence. Ungratified sexual desire, in those who are of amorous disposition, may likewise cause ovaritis. Some most painful attacks, due to this cause, are met with in young widows. The same result has been witnessed in prostitutes when placed in confinement. The employment of unnatural means for the gratification of the sexual passions; nymphomania;

From medical and mechanical causes.

gonorrhœa; or blenorrhagia in the female; a too forcible coitus, as in rape; falls or blows upon the iliac region; the use of astringent vaginal injections, causing the sudden suppression of leucorrhœal, or a hæmorrhagic discharge; the employment of escharotics in ulceration of the os uteri; the extension of endometritis through the oviduct to the ovary; retroversion of the womb, and constipation, especially at the menstrual period; sudden exposure to cold, and check to perspiration; emotional causes, as the reading of novels by those who are young and of sedentary habits; unrequited affection; the abuse of aphrodisiacs and alcoholic liquors, are among the more frequent and ordinary causes of ovaritis. Scanzoni reports having observed many cases in which this disease was developed in consequence of an inflammation of a portion of the intestinal canal, and especially of the rectum. I have known it result from a sudden and intentional suppression of milk in a mother who had been suckling her child.

Epidemic ovaritis.

The intimate relation existing between the functions of the mammary glands and the ovaries is significant of ovarian lesions incident to the puerperal state. If the lacteal secretion does not appear at the proper time, the ovary is very liable to become irritated, and even inflamed. This inflammation extends by continuity of surface, to the peritoneum. Hence arises a common sporadic and insidious form of puerperal peritonitis. In 1746 an epidemic of this form of puerperal fever prevailed at the Hotel Dieu, in Paris, and another in Vienna in 1819. Of fifty-six females who had died of puerperal fever, Dr. Robert Lee found that in thirty-two cases the ovaries were red, swollen and softened; and in two hundred and twenty-two cases of the same fever M. Tonellé found evidences of ovaritis in fifty-eight. Kiwisch remarked that, as contingent upon lying-in, ovaritis occurs generally in groups of cases, an observation that corresponds with the idea advanced by certain authorities, that it is sometimes epidemic. Kiwisch has often "made from ten to twenty consecutive autopsies without meeting with any considerable inflammation of the ovaries, after which the disease was observed, in more or less considerable development, in from six to ten individuals consecutively."

Traumatic causes, incident to labor, sometimes give rise to

ovaritis. Metritis may supervene upon delivery, and the inflammation extend through the generative intestine to the ovary, in some such manner as inflammation of the duodenum may indirectly extend to the liver.

Traumatic ovaritis.

It is possible that, by reason of being compressed against the bony pelvis, the ovaries are sometimes injured during labor, but, as the gravid uterus occupies the superior strait, this result could happen only in exceptional cases. In the puerperal state, the absorption of post-organic matters from the cavity of the womb sometimes gives origin to a painful and dangerous form of this disease. Pus and other deleterious products may be conveyed by the oviduct from this cavity direct to the ovary, or lodged in the peritoneum, and thus serve to light up the inflammatory process.

In rare cases, the rheumatic diathesis acts as a predisponent of ovaritis. This is an inveterate form of the complaint. In an example of the kind that I now have under treatment, the patient has, for six years, suffered almost martyrdom from rheumatism. For six months past she has had amenorrhœa, with prolapse of the left ovary, and ovaritis. A peculiarity worth mentioning is that an elder sister of hers died of rheumatism with menstrual suppression that had persisted for more than a twelvemonth.

The "hysteric constitution," as it is styled by Roberton, is a marked predisponent of ovaritis. The class of patients most liable to this inflammation are recognized as the nervous, irritable, and hysterical, those whose temperaments are mercurial and volatile.

Symptoms.— In acute, post-partum ovaritis, the constitutional symptoms are marked and decided. As in inflammation of the serous tissues generally, the attack commences with a chill, followed by fever, acceleration of the pulse, and local pain. This pain is sometimes described as sharp and intense; again it is forcing, throbbing, or dull, sickening and paroxysmal. It may be seated in the upper and posterior portion of the vagina, in one or both of the iliac fossæ, the groins, the lumbar region, the sacrum, the hips, or in the thighs, and occasionally reaches to the end of the toes. Sometimes, in lieu of a positive pain, there is a disagreeable feeling of weight and smarting in the region of the ovary, and patients not unfrequently com-

Peculiar pain.

plain of a burning sensation in the same locality. On applying the hand to the hypogastric region, you may discover that there is really an increase of heat in the part affected.

When decidedly paroxysmal, the sufferings may either remit or intermit. The iliac and hypogastric regions become exceedingly sensitive to the touch, so that pressure, palpation and percussion are insupportable. The least motion, more especially the attempt to sit upright in bed, increases the suffering, and syncope may result. In milder cases, riding and walking have a similar effect. One of my patients complains most of riding in a railway car. The thigh that corresponds with the affected side is sometimes flexed, cannot be extended without causing much suffering, and on this account is rendered almost useless. She cannot sit, or stand erect, without extreme pain. When in the horizontal position, she prefers to keep the thigh flexed on the abdomen, and the leg on the thigh, in order to procure ease by relaxing the intra-pelvic and abdominal muscles, and thus relieving pressure upon the tender and inflamed ovary.

Exercise — position.

If the lesion involves any considerable portion of peritoneum, you may expect general abdominal tenderness, with tympanites, and other symptoms of true peritoneal inflammation. In post-partum ovaritis, whether it be a sequel to labor at full term or to abortion, the disease has its origin in this membrane (which is reflected over the ovary), whence it spreads rapidly.

Peritoneal ovaritis.

In consequence of its increased weight, produced by a species of strangulation and inflammation, the ovary is liable to a hernia or descent, posteriorly into the recto-vaginal space or cul-de-sac, laterally along the sides of the vagina, anteriorly between the uterus and the bladder, and even occasionally into the labia majora. In rare cases, this hernia of the ovary is congenital.

The following interesting case of this kind is cited by Billard, (Traité des Maladies des Enfants nouveau-nés. Paris, 1833, p. 474).

"Josephine Romer, seventeen days old, was brought to the Infirmary, September 12th. She was strong, and seemed possessed of a good constitution; the abdomen was somewhat tense; and at the left inguinal region there was a round tumor of the

size of a filbert, somewhat hard to the feel, which could not be returned to the abdomen, neither reduced in size by pressure, nor was its volume increased by the crying of the child. Its direction was obliquely towards the labium of the corresponding side, which it did not quite reach. On considering the location of the tumor, and although the sex of the child forbade the supposition, one could hardly resist the conviction that it was a congenital inguinal hernia. Our judgment was accordingly suspended until, at the end of twenty-six days, the death of the child from pneumonia allowed us, by dissection, to ascertain the nature of the tumor.

* * * * The hernial tumor was formed by the left ovary, that had descended through the inguinal canal and ring, which were much larger than one usually finds them in girls. The uterus, drawn by the round ligament, and by the ovary that formed the hernia, had left its natural position, and was inclined to the left side of the bladder. The left kidney, instead of being on a level with the other, was drawn downward by an enveloping cellular tissue, and also by a fold of peritoneum, intimately connected with the orifice of the sac; the renal artery and vein had also yielded to this traction, and both were elongated and narrowed; and finally, the ovary and the fimbriated extremity of the Fallopian tube, somewhat reddened and swollen, were lodged at the base of the sac formed by the prolongation of peritoneum, with which cavity it communicated. There were no adhesions between the intestinal convolutions and the surrounding parts, and the opposite ovary was in its usual situation.

"A careful examination of the round ligament on the side where the hernia was, satisfied me that it was much shorter than that of the opposite side, and that, in place of losing itself in loose filaments, it terminated in the labium by an aponeurotic expansion; from which it would seem that the ligament, shorter, and more firmly fixed to the labium, had, in the first place, caused the uterine displacement, and subsequently drawn the ovary through the inguinal ring. It followed, from this abnormal adhesion, that all the movable, connected and contiguous parts on the left side of the abdomen were drawn to the side of the hernia, for they were not separated from each other, nor did they follow the abdomen in the intra-uterine development and enlargement of the fœtus."

The benign tumor formed by the displacement in ovaritis,

may vary in size from that of a large almond, to that of a hen's egg, or even larger. It is more swollen and sensitive at each menstrual period. This drawing, on the blackboard, will give you a pretty correct idea of the posterior and more frequent dislocation of the ovary, which you will remark has dropped into the recto-vaginal pouch, so that it is situated between the anterior wall of the rectum and the posterior wall of the vagina.

The swollen ovary feels like an enlarged gland, is convex, and sometimes throbs and pulsates beneath the finger. The anal and vesical symptoms correspond with the variety and extent of the ovarian displacement. As a rule, the lower the organ, the greater the suffering. The tumor may press upon the broad ligaments and cause uterine deviations, or upon the veins and nerves within the pelvis, and occasion great suffering, paralysis, and, according to Carus, convulsions of the inferior extremities.

But since, as Becquerel insists, these symptoms are common to inflammation of all the organs contained within the lower pelvis, how are we to decide, in a given case, if they depend upon ovarian inflammation and consequent displacement? In the more acute attacks of ovaritis, and particularly in lean persons, it is sometimes possible to detect the tumefied organ by examination through the abdominal parietes. In this case the swelling is circumscribed and extremely painful to the touch. This is the most severe, or peritoneal form of the disease, which Scanzoni teaches "is the only form accessible to palpation."

In diagnosticating the sub-acute and chronic varieties, it is necessary to resort to the "touch." Upon making an examination per vaginam, we find the "tender spot" complained of to correspond with the position of the prolapsed ovary. We may discover the tumor at the right or left sacro-iliac symphysis, or in one of the sacro-sciatic notches. If the displacement is a lateral one, we may confirm our suspicions by an examination of the corresponding groin, or iliac region, through the abdominal walls with one hand, while with the other we explore the vagina.

The vaginal "touch."

It frequently happens that the patient winces or complains when the finger touches the uterine os or cervix—a circumstance that, unless one is very careful, may mislead in the diagnosis. Pressing the vaginal portion of the

Characteristic pains.

cervix, backwards and laterally, occasions acute pain in the affected ovary. She declares that "she cannot bear to be touched just there," and may proceed to tell you that the same suffering is sometimes caused by contact of the male organ with that spot during coitus. One of my patients made a similar complaint in consequence of having touched the posterior vaginal wall at its superior portion, with the pipe of her syringe, which she had been told must be introduced high up into the vagina.

The displaced and inflamed ovary is most easily felt upon examination by the vagina when that canal is short, and the uterus and its appendages are not far removed from the vulva. But when the vagina is long, and the womb high up in the excavation, it is necessary also to resort to the expedient of exploration by the rectum. Placing the patient in the obstetric position, with the thighs well flexed, the finger introduced into the rectum may be made to reach further, and acquaint us more fully with the degree of ovarian swelling and displacement, than any other means at command. This end is facilitated by the thinness and elasticity of the coats of the rectum, and the possibility of exploring the posterior surface of the womb, and even of the ovaries, in their normal state. And this mode of examination may be rendered still more valuable in certain cases, by the employment of the free hand in abdominal manipulation — it being sometimes possible thus to press the tumor upon both its anterior and posterior surfaces at the same moment.

The rectal "touch."

In the worst examples of prolapse of the ovary into the recto-vaginal space, the same end is gained by a resort to what has been styled the "double touch" of Recamier, which consists in the introduction of the index finger into the rectum, and of the thumb of the same hand into the vagina. By forcing the perineum upward, this expedient permits us to compress the morbid growth between the thumb and finger. The character of the resulting pain, and the shape, position and mobility of the tumor, are believed to be pathognomonic of the disease in question.

The "double touch."

One of the most painful and persistent symptoms consequent upon a posterior prolapse of the inflamed ovary is an intolerable

sense of strangulation and obstruction of the bowel, following the effort at stool. Rigby compares the character and quality of this suffering to that proper to orchitis, which, as you know, is almost insupportable. It is undoubtedly due to the pressure of fæcal matter, and to the peristaltic movements of the rectum upon the dislocated, swollen and excessively tender ovary. It may continue for hours after defecation has been accomplished. The symptoms induced thereby are sometimes mistaken for those of retroversion of the womb, and of stricture of the rectum. Constipation is an almost necessary consequence; and it is possible, as has been claimed, that, in some cases, it may even tend to produce the displacement of the ovary. The whole alimentary system is liable to be deranged. The tongue becomes coated, the patient complains of thirst, anorexia, and, in rare cases, of obstinate heartburn, and even vomiting, as in the early months of pregnancy. The febrile symptoms correspond with the suddenness and severity of the attack.

Feeling of strangulation.

The vesical symptoms are sometimes so pronounced as to lead to suspicion of idiopathic disease of the bladder, and possibly of the kidneys also. When there is strangury, dysuria, heat and pressure in the bladder, and these symptoms are greatly aggravated, or recur, only at the menstrual period, they signify that a sub-acute inflammation of one or both ovaries may be the cause of the suffering. You are not to conclude that they are necessarily the result of anteversion of the uterus, which affection, I repeat, exists more frequently in imagination than in fact.

Vesical symptoms.

The menstrual irregularities incident to ovaritis will not fail to attract your attention. The physiological theory that menstruation consists essentially in the ripening and discharge of the unfecundated egg, or the "parturition of the ovum," as Tyler Smith most appropriately terms it, is now the generally received explanation of this process.

The ovary is *par excellence* the organ of menstruation; the maturation and extrusion of the ovum, the first direct step in the process. This little organ, at once the most diminutive and important of all the pelvic viscera, is a species of alarm clock, that introduces the element of time into the generative system, and presides over this function with respect to its occurrence and

regularity. Its organic symptoms are wonderful, and almost unlimited in their range and significance. Physicians are accustomed to speak of the "uterus and its appendages;" a more correct phraseology would be, "the ovaries and their appendages."

Retention of the menses is one of the most common and serious symptoms of sub-acute and chronic ovaritis. Young women are especially liable to that form of amenorrhœa, described by the older writers as emansio mensium, a condition in which the menstrual flow has never been established. When a simple suppression of this discharge — suppressio mensium — occurs during the course of other diseases; as, for example, in phthisis pulmonalis, and the protracted fevers, or from incidental causes, it may signify that one or both ovaries are inflamed. The cause has operated indirectly. The lesion is secondary or symptomatic. The effect is none the less palpable, and equally prejudicial to a complete recovery.

Menstrual disorders incident to ovaritis.

It is impossible to treat properly such cases of menstrual irregularity without a knowledge of their special pathology. Some slight obstruction prevents the escape of the menses from the uterine cavity or the vagina. The new and abnormal pulse is reflected upon the ovary. Inflammation is the result, and the regularity and completeness of the function is disturbed for months, and possibly for years. Not to speak of the harmful consequences supposed to result from the non-elimination of certain matters contained in the menstrual blood, the suspicious character of the vicarious hæmorrhages sometimes induced, or the liability in many cases to the development of pectoral disorder from this cause, there is no question but that, in the great majority of instances, amenorrhœa is intimately connected with, and dependent upon, ovaritis.

The varieties of dysmenorrhœa known as spasmodic, mechanical, and obstructive, implicate the ovaries in a similar manner, and are, therefore, to be regarded as incident to, and not dependent upon, the disease under consideration. The ovarian form of dysmenorrhœa is always accompanied by ovaritis. The physiological injection of the organ, so necessary to its functional activity, becomes excessive and exaggerated. The first stage of the inflammatory process is present, and the congested viscus is tender and painful.

Dysmenorrhœa and ovaritis

All the suffering, which is paroxysmal, tormenting, and neuralgic in character, may be referred to the ovary. The lower part of the abdomen becomes extremely sensitive, and the patient undergoes a monthly martyrdom, accompanied by a distressing headache, neuralgia, and hysterical symptoms of every shade and variety.

In my lecture on menorrhagia, you will recollect that I called your attention to the clinical fact that the most inveterate examples of that affection had their origin in subacute and chronic ovaritis. To members of our school of medical faith, this fact is especially significant. The recognized superiority of our remedies for the arrest of profuse flooding can only be explained by their power to regulate, harmonize and restore the delicate vascular sympathies that exist between the ovaries and the uterine mucous membrane. In illustration, I will read you the notes of a case upon which my advice was desired by Dr. B., a member of the class from Wisconsin.

Menorrhagia and ovaritis.

Case. — Mrs. ——, aged 18, married one year, came under my professional charge about three years ago. She is troubled with menorrhagia. The attacks have recurred at intervals for a period of two years, for the relief of which she has taken domestic and allopathic medicines in large quantities. She was formerly strong and robust, but, on taking a sudden cold during the catamenial period, the menses were suppressed for nearly a year immediately preceding her last illness. The attacks of flowing last for a period of one or two weeks, and weaken her so much that she can scarcely raise her hand. The interval varies from three to four weeks, but is sometimes extended to eight or ten weeks. The flow is always long-continued, and profuse in amount. She had lost all reckoning as to the time for the recurrence of the regular flow.

The discharge is sometimes dark and clotted, but more frequently of a thin, fluid character. Sometimes — and especially when the clots are passed — it is attended by much suffering, but, excepting in the region of the ovaries, there is in general no pain. Both ovaries are tender and exceedingly painful, but only *during the flow*.

She had been taking internally, and also by injections into the womb, most of the astringents laid down in the Materia Medica. In three months, by the use of pulsatilla, sulphur, nux vomica and sabina, giving the first two night and morning for a fortnight, and the last two for a like interval, and then repeating, I succeeded in establishing the regular "periods." Menstruation would then seem to be natural, the proper flow to continue for three or four days, after which, instead of decreasing, it would

increase, and consist of clots with arterial blood. The discharge would then continue for ten days or a fortnight, despite my best efforts to suppress it. For a time, drop doses of hamamelis seemed to check it, but after a little it lost its effect.

This patient has never had any children, or, to her own knowledge, ever been pregnant. At times she has leucorrhœa, which is readily relieved by appropriate remedies. When I first saw her, the appetite was morbid, and she had lived upon rich and highly-seasoned food. She craved pickles especially.

In this case, the nature of the exciting cause, the amenorrhœa, and the ovarian tenderness, assure us that the hæmorrhage could not have been due either to prolapsus uteri, hydatids, or a cancerous affection of the womb. The doctor's success in establishing a periodical return of the menstrual flow is confirmatory of the view that its essential pathology was to be sought for in the ovaries. The throwing of astringent injections into the uterine cavity, by his predecessor, was a species of malpraxis which, besides being a positive injury, demonstrated the ignorance of the practitioner.

Gonorrhœal ovaritis.

Gonorrhœal ovaritis is, I am persuaded, more frequent than is generally supposed. According to M. de Meric ("London Lancet" for September, 1862), it is most liable to occur during the acute stage of gonorrhœa in the female. In this it differs from the onset of orchitis in the male, which occurs towards the decline of the gonorrhœal discharge. This rule has many exceptions. The same author states that such an effusion and induration as takes place in the epididymis, when the testicle is inflamed, does not occur in the ovary in consequence of gonorrhœal ovaritis. Nevertheless, the character of the suffering induced is very similar. However much the patient may complain of the vaginitis and urethral symptoms in case of gonorrhœa, the acuteness and severity of the pain in one or both ovaries, when they are the seat of this specific inflammation, is still more marked and decided. It closely resembles that of orchitis.

As a concomitant of gonorrhœa in the female, ovaritis may undoubtedly result, as Dr. Tilt suggests, from "the immediate application to the ovaries of the blenorrhagic pus which has been conveyed by the same capillary attraction by which the seminal fluid is conducted;" from extension of the disease from the vagina; or possibly from inoculation of the whole glandular system, including the ovaries themselves, with the specific poison.

The excessive tenderness of the vagina in cases of this kind, interposes a barrier to the employment of the "touch" in making a careful diagnosis, and hence this affection has been overlooked by a majority of writers and practitioners. I can not give you a better idea of this form of the disease than by quoting a case from M. de Meric's excellent paper.

"On October 27, 1858, I was asked to see the wife of a wealthy tradesman in one of the metropolitan suburbs. She was said to be very ill, and I found her in bed. The patient was then about thirty-two years of age. She stated that, for three weeks at least, she had noticed an abundant discharge, which had considerably stained her linen with large yellow spots. The discharge had of late increased, and she had been obliged, on the day of my visit, to take to her bed, owing to a severe pain in the left iliac region. There had been a certain amount of uneasiness in micturition, but that had passed off. The last menstruation had occurred about three weeks before.

"On examination, I found the patient suffering from feverishness; the linen shown to me was marked with large yellowish spots, and pain on pressure over the left ovary was very acute. The diagnosis of a case of this nature was seemingly easy enough. I suspected sub-acute metritis, the inflammation having suddenly extended along the Fallopian tube, and reached the ovary. This latter circumstance was explained by an imprudent exposure to cold, viz., driving home from the theatre in an open carriage. The pain was so acute that I did not propose a vaginal examination, but at once ordered fomentations to the left iliac region, a gentle purgative, an antimonial mixture, low diet, and rest.

"It should be noticed that the lady was suckling a child about seven months old.

"On leaving the house, the husband accompanied me, and inquired about the state of his wife, hoping it was nothing serious. As he had been under my care, some years before, for gonorrhœa, I thought it my duty to ask him whether anything of the kind had happened again; and I learned that he had been suffering from a slight discharge, which was going off.

"The case now took a different aspect; and, after weighing all the circumstances, I came to the conclusion that my patient had been infected, and was laboring under gonorrhœa, the inflam-

mation having traveled to the ovary by way of the uterine cavity.

"On the 29th, two days after my first visit, I saw the lady again, and found the discharge had diminished; the pain over the left ovary was still severe, though the pulse had somewhat come down. I proposed leeches, but so much repugnance was expressed that I advised counter irritation by mustard poultices, and the use of the same lowering means. The case progressed very favorably; a few astringent injections were made as soon as the acute inflammation had gone by; and in about three weeks the patient had so far recovered as to resume her household duties. I did not think it necessary to advise the weaning of the child. The father also regained his health in a short time."

Some most painful attacks of gonorrhœal ovaritis arise from the use of strong astringent injections designed to stop the vaginal flow. I have recently treated a case of this kind, in which the husband ventured to prescribe the same injection for his wife that had been ordered for himself by a quack doctor. After a few hours she did penance for his infidelity and presumption, in a most severe attack of inflammation seated in both ovaries. Women sometimes resort to such harmful expedients at their own suggestion, and in a fit of desperation. I am greatly mistaken if in the future your professional experience does not prove that ovaritis is a frequent and most painful contingent of gonorrhœa in the female, Dr. Simpson and others to the contrary notwithstanding.

At my next lecture I shall speak of the pathological anatomy, the differential diagnosis, prognosis, sequelæ, and treatment, of ovaritis.

LECTURE XLV.

OVARITIS—(CONTINUED).

Morbid anatomy of. Abscess in. Diagnosis. Prognosis. *Case.*—Sequelæ. Menstrual disorders. Sterility. Treatment. do. of the puerperal form. Remedie in the common form. *Case.*—Local remedies.

In my last lecture your attention was directed to the nature, causes and symptoms of ovaritis. As related to the history and treatment of this disease, other points remain to be noticed. And, first, of its

Pathological Anatomy.—You will not be surprised to learn that, until quite recently, the physiological anatomy of the ovaries was so little understood that distinguished physicians have been known to mistake healthy for morbid appearances, in these organs, at *post mortem*. It is related of the eminent anatomist Vesalius, that he referred the origin of symptoms of uterine strangulation, amenorrhœa, and chlorosis, to the presence of yellow spots, the modern corpora lutea, in the ovaries of four unmarried women, upon whose bodies he conducted an autopsy.

The structural changes incident to ovaritis vary with the acuteness of the attack, the brevity of its course, the seat of the lesion in one or another of the ovarian textures, its relation to the last menstrual period, to labor, whether premature or at full term, and to the grand climacteric. As with inflammation seated in other organs, so in ovaritis, the more rapid the course of the disease, and suddenly fatal the attack, the more marked are the evidences at *post mortem* of congestion, and its immediate consequences.

The lesions vary.

The line of demarcation that separates the physiological changes proper to the maturation of the ovum and the dehiscence of the follicle at each menstrual period—*id est*, the escape of a small amount of blood into the cavity of the Graäfian vesicle, the retraction of its walls, the formation of a clot, the fading hue of the coagulum, and the final cicatrix—from the more marked engorgement and effusion proper to acute attacks of ovaritis, is very indis-

tinct and illy defined. In this connection, the following differential diagnosis between healthy and morbid ovisacs, as detailed by Dr. Farr, and re-arranged by Dr. Clay, in his notes to Kiwisch,* is of practical interest:

NATURAL FOLLICLE.	MORBID FOLLICLE.
1. Always near the surface when preparing for dehiscence, and often projects considerably above the level of the ovary.	1. Often not peripheral, but more or less central in its position in the ovary. It may attain to the size of one-third or half of the ovary, without necessarily causing any distinct prominence above the surface, especially when occurring singly.
2. Coats unequally thick; thinnest at the most prominent part of the follicle.	2. Walls are equally thick, and exhibit at no part any evidence of attenuation or absorption.
3. Considerable vascularity above the elevated part, plainly visible externally.	3. No preparation for rupture is indicated externally, by any peculiar arrangement of vessels, or by any marked increase of vascularity.
4. Walls of follicle at this stage, of a bright yellow color.	4. The walls do not exhibit the remarkable yellow color, or the cerebral foldings, characteristic of the advancing normal ovisac, the tissues being composed of the undeveloped Graäfian follicle.
5. The liquor folliculi is either clear and limpid, or intermixed with blood, or the center of the sac is filled with a coagulum, which is at first bright red, and afterwards becomes pale, and at length nearly white. The coagulum may adhere to the walls, and undergo fibrillation and subsequent conversion into a solid body, or into a dense white membrane; or it may be rapidly absorbed.	5. Contents of the sac are neither the clear liquor folliculi, nor the bright clot, nor the developed fibrin, but generally a collection of dark coffee-ground matter, resulting from the admixture of a quantity of decomposing blood corpuscles, and fragments of membrana granulosa, intermixed with a dirty fluid.

Any considerable engorgement of the ovary with blood, occasions an increase in the size and weight of the organ. The tumefaction is accompanied by softening of tissue, increased vascularity, and a change of color to a rusty dark red or blue, or even a mahogany hue. In idiopathic cases, which are rarely the subject of post mortem examination, an apoplectic effusion of blood into the follicles, and the subsequent formation of a coagulum therein, sometimes results. As in cerebral apoplexy, the size, complexion, and character of this coagulum varies in different cases and in different stages of the disease. The masses are irregular or rounded,

The discoloration and the clot.

* Kiwisch on the Diseases of the Ovaries, by Clay, London, 1860, p. 63.

and sometimes as large as a cherry. The softer the clot, and the lighter its color, the more chronic or protracted has been the inflammatory process. Recent effusions may supervene upon those of earlier date, in which case different follicles will be occupied with coagula of varying hues and consistency. Sometimes the wall of the follicle is hypertrophied, and rendered more firm than natural. In rare cases it is friable, and this species of hæmatic cyst may be ruptured, and its contents extravasated within the stroma, and the enveloping membrane (tunica albuginea) of the ovary, or into the peritoneal sac. Scanzoni details the case of "a young girl of eighteen years, who died suddenly during menstruation, with all the signs of an internal hæmorrhage. The autopsy demonstrated in the right ovary, which was slightly amplified, a pocket of the size of a pullet's egg, filled with coagulated blood, in the posterior wall of which was found an opening of nearly nine-tenths of an inch long, through which nearly seven pounds of blood had penetrated into the abdominal cavity." In septic states of the blood, as in the ovaritis of lying-in women, caused by the absorption of post-organic matters from the cavity of the uterus, the ovary may be engorged with effused blood from passive hæmorrhage. These, and similar disclosures by the knife of the anatomist, have sometimes caused the ovarian lesion to be entirely overlooked, and an off-hand, uninstructive diagnosis of pelvic hæmatocele to be made by the physician.

Hæmorrhage into the ovary.

Any of the various "terminations" of inflammation may sometimes be recognized in the ovary. A very considerable effusion of serum into the peritoneal investment of the organ, or the collection of the same fluid in the distended vesicles, discloses a dropsical condition that may have escaped notice during the life of the patient. In the former case the tumor is unilocular, in the latter multilocular. It is more than probable that, as in pleurisy and pericarditis, this serum is at first exuded as a critical means of relief to the inflamed structure, and that subsequently the absorbents are not capable of removing it.

Dropsy as a sequel.

When resolution has taken place, the structure of the ovary is changed. The retracted cicatrices make it more solid in consistence, with an irregular, bosselated surface. The glandular structure disappears, and may be substituted by various forms of

heteroplastic growth; as, for example, the cartilaginous, calcareous, cancerous, and possibly the tuberculous. Nearness to the grand climacteric increases the liability to atrophy of the whole organ.

Puerperal ovaritis, whether peritoneal, parenchymatous, or follicular, and whether it occurs as a contingent of labor at full term, or in abortus, is most liable to terminate in suppuration. Abscesses of the ovaries are by no means uncommon. Their history is of the greatest clinical interest and importance. After death from puerperal fever, the puriform exudation may sometimes be found deposited in the follicle, which is thus enlarged to the size, perhaps, of a hazel nut. A description of these abscesses is thus given by Kiwisch (*op. cit.* p. 90):

Liability to suppuration.

"Follicular abscesses, after a long continuance, may attain a very considerable size; indeed, according to our own observations, they have contained about sixteen pounds of pure pus. The cyst wall may resist perforation for some time, and, in isolated cases, for a long period of years. The parenchymatous abscesses are generally not so large, though we have seen them reach the size of a child's head; and we have also to observe that they commonly increase much quicker than those previously mentioned. These abscesses often proceed from several small foci, which coalesce in the course of time, and the greater part of the stroma of the ovary is destroyed, or a sinuous cavity is inclosed in its rudiments. After a protracted duration of the disease, these collections of pus are surrounded by a membrane; but it is difficult to separate from adherent parts, and it cannot be anatomically demonstrated to any extent. The disposition to perforation is a characteristic feature of these abscesses; in the acute form of the disease, it may take place in the course of a few days or weeks. The cystless abscesses in the neighborhood of the ovaries, are also disposed to perforation. Consecutive collections of pus, in previously degenerated follicles, seldom burst, with the exception of those cases in which the contents have an ichorous property."

The pus contained in the ovarian abscess, in most cases, is laudable; but, occasionally, ichorous and corrosive. The danger of rupture and extravasation of the contents of these abscesses, is proportionate to the bad

Character of the pus.

quality of this purulent matter, complicated perforations being more frequent where the pus is of an ichorous and disorganizing character.

The abscess may discharge its contents directly into the abdomen, with fatal consequences. A case of this kind is cited by Dr. Seymour, from Guy's Hospital Reports.*

"The patient was a young woman, of the lowest and most unfortunate class of females. She was greatly emaciated, had a very quick and feeble pulse, a shining red tongue, and constant watchfulness. She suffered from constant and irrepressible diarrhœa, and for many successive days vomited both food and medicine; the catamenia were absent. * * * * After having been in the hospital about two months, she suddenly complained of the most acute pain over the abdomen, and, in a few hours, expired.

"On opening the abdomen, death appeared to have been produced by the effusion of a large quantity of pus into the peritoneal cavity, which escaped from an abscess in the right ovarium, which abscess appeared to arise from suppuration in the substance of the viscus, similar in every respect to phlegmonous abscess in any part of the body, and not connected with any cyst, or change, or addition of structure, the product of morbid growth."

Collections of benign pus in the ovaries may find an outlet through the bowels, the bladder, the uterus, the vagina, or the abdominal parietes. They seldom perforate the small intestine, but more frequently communicate with the rectum, on the left side, and the colon on the right. Serious consequences, from the escape of the purulent collection, are prevented, by the formation of adhesions between the neighboring structures. Many obscure cases of renal, uterine, and rectal disease originate and culminate in this effort of nature to extemporize an outlet for the contents of an ovarian abscess. Fistulous abscesses of this sort are sometimes salutary, and again intractable, chronic, and necessarily fatal. In rare cases they may discharge, repeatedly, through the unnatural outlet. It should not be forgotten that, although it may take place in the unimpregnated female, ovarian suppuration occurs most frequently, in consequence of post-partum injury or inflammation.

Extemporized outlets for pus.

* Seymour on Diseases of the Ovaria; p. 38.

The quantity of pus contained in the ovarian abscess may vary greatly. In most cases it is not very large. Examples are, however, recorded, in which an incredible amount has been observed. Dr. Taylor, of Philadelphia, reports a case of chronic ovaritis affecting the right ovary, in which the sac weighed seventeen pounds, and yielded sixteen quarts of pus. It sometimes happens that the purulent matter, with which the stroma of the ovary and the tissues of adjacent organs are infiltrated, is itself decomposed. In this case the evidences of fatal peritonitis are superadded to lesions already noted. Kiwisch says (*op. cit.* p. 92):

Enormous quantity of pus formed.

"The more acute the progress of an ovarian abscess, the slighter is the thickening of its walls, and the more benign its pus; but much more frequently it happens that, after its contents have been evacuated externally, complete contraction and obliteration of the pus cavity takes place. This is observed particularly after parenchymatous inflammations, and the intra-peritoneal suppurations surrounding the ovaries. Those abscesses, however, whose walls are highly organized, which are not excavated for months or years, particularly when the point of rupture has no favorable direction, generally cause exhaustion, in consequence of the frequent renewal of the decomposing pus, or become fatal by the supervention of pyæmia."

The post mortem disclosures in ovaritis, chiefly affecting the peritoneal investment of the ovary, are of the kind proper to serous tissues generally. Sometimes the most extensive adhesions are formed. "Thus the ovary may become agglutinated to the broad ligaments, to the pelvic parietes, the uterus, the bladder, or the rectum and the sigmoid flexure, to the cæcum, the vermiform process, and the small intestine; and it is generally attached to several of those viscera at the same time." The fibrous bands that connect these various organs and surfaces, belong to the variety of pseudo-membrane, classed by Laboulbéne as "permanent," which are themselves subject to diseased conditions. In some cases a considerable increase in the size and weight of the ovary may be due to an excessive development of the fibrinous exudation.

The various lesions we have detailed are seldom found uncomplicated with those of inflammation of adjacent organs and

structures. This is especially true of puerperal ovaritis, which, as we have said, is apt to run its course with metritis, endometritis, or peritonitis.

Variolous ovaritis.

Beraud, Trousseau and others, treat of a form of ovaritis which is contingent upon variola, (l'ovarite variolеuse). It may attack either the parenchymatous structure or the peritoneal envelop of these organs.

Diagnosis — The diagnosis of ovarian affections is, sometimes, very difficult. This is especially true of the sub-acute and chronic varieties, unconnected with the puerperal state. When the patient is extremely sensitive, and especially where it becomes necessary to explore the rectum, we may resort to the employment of anæsthetics with advantage. I have already given you a full description of the symptoms of ovaritis. The character of the suffering, its periodical aggravation with each return of the catamenia, the menstrual derangements incident thereto, the symptoms of strangulation and inflammation from a hernial descent, or other displacement of the floating organ, the circumscribed swelling, the constitutional effects, and the sequelæ, are sufficient to enable you to distinguish this from other diseases of the female generative system. In making out the differential diagnosis of ovaritis, in its various forms, it is well to proceed upon the clinical principle of exclusion. Having examined if there be any disease of either of the neighboring organs, and not finding it present in a given case, we are confirmed in our diagnosis that the affection is ovarian. As explained in my last lecture, the "touch" is an invaluable aid in all doubtful cases.

Characteristic symptoms.

The principle of "exclusion."

Prognosis. — In the milder forms of ovaritis uncomplicated with organic disease of other portions of the generative apparatus, the prognosis is favorable. Very considerable structural changes may be resolved away, and the general health and vigor reinstated. The most obstinate examples of this disease are complicated with menstrual disorders, more particularly with menorrhagia. In the gonorrhœal type, when it does not result in suppuration, the symptoms are likely to become intractable and obscure, although most cases recover sooner or later. When there is ulceration of the womb, and the patient has been under

treatment therefor, especially if the os and cervix have been frequently and severely cauterized, the prognosis should be guarded.

The danger from ovaritis after abortion.

When acute ovaritis supervenes upon abortion, the danger is in ratio with the advanced state of pregnancy at which the miscarriage has taken place. The more advanced the period of gestation, the greater the danger. Much depends also upon the cause or causes that have produced the abortion. As the normal stimulus for uterine muscular contraction is derived from the ovaries, so it is reasonable to suppose that any agency that produces a like result, whether medicinal or mechanical, vital or villainous, must operate through the same medium, and thus implicate these organs more or less seriously. The prognosis will vary accordingly.

As a contingent of lying-in.

As a contingent of child-bed, the danger varies with the history of the previous labor, the patient's vigor of constitution, the circumstances by which she is surrounded, the care she receives, and the epidemic prevalence of puerperal peritonitis. The occurrence of rigors that alternate with fever of an irregular type, local ovarian pain and anguish, a frequent pulse, colliquative sweats or diarrhœa, suppression of the milk or lochia, with tympanites, dyspnœa, great prostration, and copious deposits in the urine, are untoward symptoms. Rupture of the hæmatic cysts, and of the ovarian abscesses, and the extravasation of their contents, may prove suddenly fatal. Under these circumstances, the patient sometimes dies as abruptly and unexpectedly as if from perforation of the intestine in typhoid fever, or from the bursting of an aneurismal sac.

Danger from suppuration.

Ovarian suppuration is not necessarily fatal. We should, however, qualify our prognosis most carefully. Where the accumulation of pus takes place rapidly, especially during lying-in, and symptoms of adynamia, and decomposition of that fluid, are present, there is danger from purulent infection and infiltration. Other things equal, the more depraved the state of the blood, the greater the danger from ovarian abscess. If the formation of the "pus cavity" is slower, and its secretion more benign in character, and more especially if adhesive inflammation has served to protect the adjacent viscera from implication, and to afford a means of final discharge, the

case may terminate favorably. Sometimes a period of months, or even years, is consumed in this critical process. If the case becomes thus chronic, there is danger from exhaustion, caused by the drainage of the patient's nervous energies and nutritive resources. This is especially true of scrofulous subjects, who present a cachectic appearance, and finally succumb to vital losses of this character. Becquerel* reports the case of a young woman of twenty-three years, in which death followed the discharge of an ovarian abscess into the rectum. Kiwisch says, (*op. cit.* p. 86):

"The course of these pelvic tumors is various. In favorable cases, the tumor, and with it all uncomfortable symptoms, completely disappears, after a duration of some weeks or months. We have observed tumors the size of an adult head, exceedingly hard, and apparently in direct contact with the external abdominal integument, terminate in that manner. In other cases, suppuration extends, and perforation takes place in various parts of the surrounding structures, finally terminating favorably. On the contrary, when the course is unfavorable, the continued or relapsing acute attacks, or the profuse suppuration, or the dissolution of these tumors, causes the exhaustion of the patient. A rare, fatal termination happened to us in one case, from strangulation of the adherent small intestine, two convolutions of which, strongly distended by gas, burst spontaneously, during violent contraction."

A spontaneous removal of ovarian tumors of various kinds, incident to the inflammatory process, sometimes occurs. This may take place even when the tumor has become so large as to be pushed out of the lower pelvis in order that it may have sufficient room for development, as happens with the uterus, or at about the fourth month. Dr. Meigs† relates several cases in illustration of this fact, from which we select the following:

Resolution of ovarian tumors.

"May 23, 1852. I this day examined the hypogastric region of Miss M. This lady, who has a very great spinal curvature, was examined by me about nineteen or twenty months since. I then found a very solid, incompressible, and immovable tumor, large as a child's head at term, which occupied the hypogastric region, and which *was not a womb*. It appeared to come up out of the

* Traité Clinique des Maladies de l'Uterus et de Ses Annexes, Paris, 1859. Tom. II; p. 476.

† Woman, her Diseases and Remedies. Phila., 1859; p. 357.

pelvis. I considered it to be an ovarian tumor — and, of course, my opinion was, that it was incurable, and must, in the course of time, destroy her life. To-day, no trace of it is discoverable — nor is there any reason to suppose it exists. I take comfort from this example — one of the most extraordinary I have met with — for all future cases of a similar character. I am wholly at a loss to account for its disappearance, since I am sure it *was not a hypertrophied* womb that I detected nineteen months ago — and that it was not any glandular or hygromatous tumor. She is well in February, 1859."

Drain from excessive discharge.

Apart from the danger from rupture and discharge of its contents into the abdominal cavity, from the pressure and weight of the tumor when very large, and the drain upon the patient's strength to nourish and sustain the mass, some allowance should be made for the liability to recurrent attacks of peritonitis, which always imperil the life of the patient. The same may be said of co-existing lesions of adjacent organs.

Consequences of structural change.

Adhesions, resulting from the formation of adventitious membranes are not more dangerous than those which are incident to other serous tissues when inflamed — as, for example, the tunica vaginalis testis, or the pleura. They may take place in consequence of a slight attack of ovaritis, usually styled "menstrual colic," in the newly-married female, or from metastasis of mumps to the ovaries, as happens to the testicle in the male subject, without any untoward results. This remark applies also to simple hypertrophy, atrophy, and induration of the ovaries.

Cancerous, calcareous, cartilaginous, and tuberculous degeneration of the ovary necessitates an unfavorable prognosis — unless, indeed, the surgical expedient of excision may promise somewhat of good.

Sequelæ. — Besides the lesions already spoken of as incident to ovaritis, there are others that should not be overlooked.

Menstrual sequelæ.

These are chiefly related to the functions of menstruation and generation. Menstrual derangements are very liable to follow ovaritis, whether it involves the follicular or the peripheral structure of the ovary. Many examples of amenorrhœa, dysmenorrhœa, and menorrhagia, are

to be regarded as sequelæ to attacks of ovaritis, the more evident symptoms of which may long since have passed away. The textural changes detailed when treating of the pathological anatomy of this disease, are sufficient to explain the menstrual sequelæ which are so often entailed upon the patient. It would not be reasonable to expect that the delicate process of evolution could proceed in an uninterrupted, physiological manner, after the Graäfian vesicles had once been transformed into hæmatic, serous or purulent cysts, and their walls hypertrophied, ruptured, or cicatrized. If blood or pus have infiltrated the stroma, or pseudo-membranous adhesions attached the organ to neighboring viscera; if the fimbriated extremity of the Fallopian tube is bound down to the ovary, and that portion of the generative intestine occluded, the menses will either be entirely suppressed, or their escape and discharge become painful, scanty, insufficient, irregular, or too frequent and profuse.

Nor are the evil results of these ovarian lesions limited to the ovaries. The intimate sympathy existing between these organs and the uterine mucous membrane is certain to implicate the latter in whatever pathological process affects the former. With each return of the catamenial period — no matter whether all its phenomena are present or not — this mucous membrane becomes highly injected and very vascular. If the proper flow is established, at the proper time, and in proper quantity, this physiological afflux of blood is quietly remedied and removed, as in the case of other mucous membranes after their secretions have been poured out. On the contrary, if the natural stimulus, originating in the ovary, is withheld, or perverted in its action or qualities, uterine derangements are a necessary consequence. Hence the intractable nature of many examples of sub-acute and chronic metritis. Moreover, a long chapter of reflex disorders may be indirectly due to the same cause.

Implication of the uterine mucous membrane.

I am inclined to the opinion that, as a sequel to ovarian inflammation, sterility is more frequently met with than is generally supposed. The history of menstrual disorders and irregularities, just alluded to, confirms this idea. Indeed, whatever imperils the integrity of the catamenial function may also implicate fecundity. When lesions of the ova-

Sterility from ovaritis.

ries are sufficient to prevent the completion of the process of ovulation, they also prevent conception. If inflammation of both ovaries were as common as that of a single one, sterility would be as familiar a complaint as almost any other. As it is, while one of them escapes, other things equal, the power to procreate is continued, by a species of compensatory relation, as in the case of the male, when one of the testicles is diseased or has been removed. Induration of both ovaries, when it occurs in consequence of disease, is as inevitable a cause as atrophy from old age. The ovaries may be so displaced as to remove them from the reach and grasp of the fimbriæ of the Fallopian tubes. In this case they would have no communication with the uterine cavity; and if the ovum were furnished by the follicle, it could not be conveyed to the womb. Sometimes, as a result of ovarian disorganization, diseased and imperfect ova are formed and furnished by the female. These may be impregnated, but subsequently are imperfectly developed, and abortion is a natural and necessary consequence. Hyperplastic formations and adhesions about the ovary may interfere mechanically to prevent conception, in some such manner as an excessive deposit of fat in the omentum sometimes prevents women, who are remarkable for their pinguidity, from having children.

Barrenness from gonorrhœal ovaritis.

Sterility is not an uncommon sequel to gonorrhœal ovaritis. A moment's reflection will convince you that this variety of the disease under consideration is more likely to affect both ovaries at the same time than any other, not even excepting the puerperal form. The lesion resulting therefrom may involve the most serious consequences to the generative function. Hence sterility not unfrequently follows an attack of gonorrhœa; and those who have had gonorrhœa repeatedly, are not apt to become pregnant. Without doubt, this result is sometimes chargeable to the blighting effects of the specific virus upon the ova, which it destroys in some such manner as it does the vivifying influence of the spermatozoa in the semen masculinum. But I apprehend that, in the majority of cases, actual lesions of the ovary are produced by the modified inflammatory process, which lesions are sufficient to account for the sterility that follows.

Bernutz styles ovaritis "female orchitis." In the male sub-

ject inflammation of the testicle, accompanying or following a severe attack of gonorrhœa, may, and I believe frequently does, prove itself a cause of sterility. The same remark applies to those women who, having suffered from this form of ovaritis, find themselves barren in consequence.

My professional experience confirms this view. Physicians are often consulted for the cure of sterility in the persons of women whose husbands have been wild and profligate in youth, and whose bad habits may have perpetuated themselves. Careful inquiry into the history of such a case, may disclose that the patient has had one or more attacks of gonorrhœal ovaritis, from which, indeed, she may be suffering at the moment of consultation. It is more than probable that such examples of ovaritis are modified by the specific gonorrhœal taint, however faint the impression and remote its cause. This clinical fact affords a plausible explanation of the source of difficulties among the higher families and orders of society, on account of their lack of progeny, with which history and human experience abound.

Nymphomania from ovaritis.

Although it may doubtless be true that, in exceptional cases, nymphomania results from ovaritis, yet experience has demonstrated that the most common effect of the disease is to diminish rather than increase the sexual feeling. Dr. Ashwell* says: "In two instances, I am perfectly convinced that the result of the malady was entire aversion to intercourse, and it is now allowed that nymphomania more generally depends upon the external organs, so far as physical causes are concerned."

General treatment.

Treatment. — This is divided into general and local. Owing to the present imperfect state of the materia medica, the pathogenetic indications for remedies in the treatment of ovaritis are neither very explicit nor very numerous. Its special therapeutics must, therefore, be founded upon our knowledge of its pathology, the proper use of such provings as we have at command, the similarity of textures implicated in this and other well-known diseases, and the results of clinical experience.

In the puerperal form, when the attack comes on a few days

* A Practical Treatise on the Diseases peculiar to Women. Phila., 1855; p. 445.

after delivery, and the symptoms are those of surgical fever, with pain in one or both ovaries, and violent constitutional disturbance, aconite and arnica may be given for some hours, in rapid alternation. If not of traumatic origin, belladonna may be substituted for the arnica.

Treatment of puerperal ovaritis.

The symptoms and conditions which indicate belladonna, deserve especial mention. It is particularly adapted to the early stage of peritoneal inflammation, where the pains are circumscribed and stabbing in character, or darting, lancinating, and such as mark the acute stage of inflammation in other serous tissues — as, for example, in the arachnoid membrane. The diffuse peritonitis that sometimes supervenes, may also require the same remedy. If the attack occurs in consequence of taking cold, or is erysipelatous in character, belladonna is strongly indicated. The same is true of great cerebral disturbance, delirium, insomnia, dilated pupils, also of hysterical complications, neuralgia, and spasms.

Belladonna.

If the attack is ushered in by marked symptoms of local congestion, this remedy is particularly appropriate. This is true of the idiopathic, as well as of the post-partum varieties. In many sub-acute cases, aggravated at each menstrual period, the belladonna may be given for a few hours with manifest advantage. If the pain is somewhat neuralgic in character, it may be equally useful.

Next to belladonna, in the treatment of peritoneal ovaritis, colocynth, I am persuaded, is more useful than any other remedy. This is most marked in ovaritis supervening upon abortion. I am anxious that you should not forget this fact. In this connection it is too frequently overlooked. You will find the symptoms that indicate colocynth detailed in the materia medica. It is especially appropriate to those cases in which the bowels, and indeed the whole abdominal contents, are implicated, with stitches in the ovaries, diarrhœa, colic, pressure in the abdomen, suppression of the lochia, and tenesmus. Also in puerperal fever after vexation. Colocynth is recommended by some authorities for chronic ovaritis.

Colocynth.

The good repute of veratrum viride in puerperal metritis, its apparent capability of restoring the lacteal secretion and the

lochia, when they have been suppressed by the inflammatory process, renders it probable that this agent is possessed of some specific relation to the ovaries. As a remedy in ovaritis, it should be given in an early stage of the disease, when the organism is most perturbed by reason of vascular and nervous derangement.

Veratrum viride.

Mercurius vivus is useful at a more advanced period, more especially, it is said, when there is reason to apprehend that suppuration may occur. Many practitioners rely chiefly upon this remedy in alternation with belladonna. The symptoms, mostly abdominal and symptomatic, which indicate mercurius vivus need not be detailed in this connection.

Mercurius vivus.

During the summer term of lectures in this college for the year 1864,* I called attention to the efficacy of the hamamelis virginica in ovaritis. The remarkable effects of this remedy, locally and internally, in orchitis, led me to infer that it would also be useful in some forms of ovaritis. I have prescribed it in numerous cases with remarkable results. It seems appropriate to the sub-acute attacks of this disease, which are incident to pregnancy and menstruation. In the former case, I have no question of its power, in some instances, to prevent abortion, where such a mishap threatens in consequence of ovarian irritation and inflammation. In the latter, it allays the pain and averts the menstrual derangement which is so liable to follow. It is also useful in gonorrhœal ovaritis, in which variety the suffering is sometimes extreme. This affection bears a close analogy to the gonorrhœal orchitis of the male, in which hamamelis is almost specific. For internal use, I prefer the second or third attenuation.

Hamamelis virginica.

The lauded virtues of gelseminum in gonorrhœa and spermatorrhœa of male subjects, suggest that it might also be useful in ovaritis. The same is true of its power to excite uterine muscular contractility, and to allay hysterical spasms.

Gelseminum.

Lachesis is indicated in ovaritis accompanying scanty, tardy, irregular menstruation, vicarious leucorrhœa, and menstrual derangement incident to the critical period. When conjoined with metritis, in sub-acute and chronic cases, this remedy is sometimes very useful. It is recommended

Lachesis.

* See Medical Investigator, Vol. III, p. 62.

by Hering in chronic enlargement with induration or abscess of the ovaries. The following cases were kindly furnished by my friend, Dr. A. H. Botsford, of Grand Rapids, Michigan:

"Miss M—— had suffered many months from dysmenorrhœa, with scanty menstruation. She complained of great tenderness in the iliac region, sometimes on both sides, and at others only on one, and I remarked a fullness in the region of the ovaria, when felt through the abdominal walls. She was so lame and sore that she could not walk. The attacks would culminate in a diarrhœa, the discharges having all the appearance of pus. Under the use of lachesis she gradually improved. Indeed it never failed to relieve her most signally, and the early employment of it invariably prevented the recurrence of the acute symptoms and of the purulent discharge by the rectum. This patient ceased to menstruate at twenty-seven or twenty-eight years of age, and had no further trouble of the kind. She died at thirty-five, of pulmonary congestion.

"Mrs. B——, aged about 35, came under my care five years since. Ten years ago she was ill during the whole summer, with pain, soreness and swelling in the region of the ovaries. Is of opinion that she recovered in spite of medicine. She had chronic diarrhœa, with stools like 'matter, as if from a boil.' She had also an abscess communicating with one of the intercostal cartilages on the left side of the thorax. I gave her lachesis and hamamelis. She was very soon relieved, and now keeps the medicine within reach. She has no family. Menstruation is regular, but she is liable to acute attacks of ovaritis with each monthly return, especially if she overworks or is much fatigued."

In frail, scrofulous subjects, predisposed to excessive purulent discharges, these ovarian abscesses sometimes secrete an enormous amount, and for a long time. This drain produces a species of cachexia in which other remedies may also be of service. The hepar sulphuris, calcarea carbonica, china, and phosphoric acid have been recommended to meet this indication.

Bryonia does not appear to be so well adapted to inflammation of the peritoneum as to that of some other serous tissues — as, for example, the pleura and synovial membranes. So far as we are aware, it has no specific relation to the ovary. In the puerperal form of ovaritis, where the

Bryonia alba.

attack sets in with chilliness and rigors, and especially in case of threatened mammary abscess, the breast being large, hard, tense and painful, it may, however, be very useful as an intercurrent remedy. We have sometimes employed it with advantage in rheumatic ovaritis. The same remarks apply to the rhus toxicodendron and the cimicifuga or macrotys.

The menstrual disorder aids in choice of the remedy.

The ovular theory of menstruation is confirmed by clinical experience. Excepting those already named, and a few others which are given for specific reasons, all the remedies of considerable repute, in the treatment of sub-acute and chronic ovaritis, have been prescribed for the relief of menstrual irregularities. Moreover, it is especially significant that each of these remedies is said to have caused abortion, a fact which confirms the idea advanced by Tyler Smith, that the specific stimulus of uterine contraction resides in, or must operate through, the ovaries. From these observations, certain therapeutical deductions are obvious. There is no question but that many examples of ovaritis, complicated with catamenial derangement, have been unwittingly cured by secale cornutum, sabina, apis mellifica, pulsatilla, sepia, platina, cantharis, and caulophyllin. The best criteria for the use of these remedies in ovaritis, will be found in their adaptation to menstrual disorders, as amenorrhœa, dysmenorrhœa, menorrhagia, and also, in many cases, to leucorrhœa.

Ovaritis, complicated with ulceration of the os uteri, requires to be treated most carefully. A resort to astringent injections, or cauterization, is too frequently had, by those who covet notoriety, and are reckless of consequences. The proper constitutional and local treatment for uterine ulceration will be detailed in a subsequent lecture.

Treatment of ovarian atrophy and induration.

For atrophy and induration of the ovaries, with which sterility is almost always associated, jodium, conium, plumbum and baryta muriatica, are in good repute. Change of air, and diet, travel and diversity of scenery, are sometimes of lasting benefit. I have succeeded in curing one case of barrenness, in which there was chronic induration and insensibility of both ovaries, with an almost total atresia of the canal of the uterine cervix. This canal was dilated artificially, while, at the same time, remedies were given to restore

the menstrual process. Conception followed, and the ovarian lesion disappeared.

Treatment for gonorrhœal ovaritis.

When there is reason to suspect that either the gonorrhœal or syphilitic taint is present, the mercurius solubilis, mercurius jodatus, nitric acid, thuja, kali jodatum, or aurum metallicum, may be indicated.

Calendula.

The curative virtue of calendula would be available in case of fistulous opening and discharge of the ovarian abscess through the abdominal walls, or into the bowel, bladder, uterus, or vagina.

Local treatment.

In puerperal ovaritis, when the inflammation and tenderness become diffuse and very acute, I know of no local expedient so grateful and beneficial, in a majority of cases, as the application of dry, hot bran to the abdomen. It should be sewed up in bags, heated as hot as can be borne, applied, and then renewed frequently. This application possesses the merit of availability and lightness; it is inodorous, and medically unobjectionable.

After the acute symptoms have yielded somewhat, and the patient is able to lie upon her side, dry heat may still be used, by means of a heated dinner plate, which is wrapt in flannel and kept in constant contact with the abdominal parietes. Cloths dipped in hot water soon become cold, and the patient may be chilled thereby. Hops are sometimes prescribed in extreme cases, in which it is impossible for the patient to sleep, and where nervous symptoms predominate. Emollient cataplasms of various kinds have been resorted to, and sometimes with good results.

Hamamelis virginica.

In acute ovaritis, where the pain is more circumscribed and very severe, arising, propably, as M. Velpeau suggests is the case in orchitis, from strangulation of the organ by its envelop, great relief may be afforded by the external use of the hamamelis virginica. I prefer Halsey's fluid extract of this drug, which may be mixed with hot water, in the proportion of one part to three, and applied locally, by means of cloths or flannels that have been dipped therein. In case the swollen and sensitive organ is prolapsed along the wall of the vagina, a weaker solution of the hamamelis, containing glycerine, may be used as a vaginal injection, or applied by means of cotton wool or charpie saturated with the same, and introduced into the

vagina. This application is sometimes remarkably efficacious. It may also be injected into the rectum. If the inflammation is of traumatic origin, arnica may be used in the same manner as recommended for the hamamelis. The local and general employment of aconite is recommended in case of a rheumatic complication, which sometimes involves the most extreme suffering.

Arnica — Aconite.

Vicissitudes of weather and temperature sometimes affect this class of cases so unfavorably, that it is well to protect and insulate the ovaries from their harmful influence. For this purpose a layer of cotton batting, flannel, or silk, should be worn next the abdomen. In very susceptible subjects, where, from taking cold, mild attacks of ovaritis frequently accompany menstruation, this expedient is also serviceable.

Protect from cold and dampness.

Warm baths are better than cold, and the hip bath is preferable to any other. The cold hip bath is sometimes useful, but should be taken quickly, in order to insure reaction. They should not be used indiscriminately. For the relief of pelvic pains incident to severe attacks of ovaritis and ovarian neuralgia, Dr. Aran recommends the expedient of packing the speculum, in vagina, with coarsely powdered ice. Such extreme measures are rarely, if ever, justifiable.

Baths, etc.

Little attention need be paid to restoring the displaced ovary. Remove the inflammation, and the structural changes consequent upon it, and the dislocated ovary will take care of itself. Any attempt to reduce the luxation, farther than by placing the patient in a favorable position, would probably result in more of harm than of good.

As one of the most trying obstacles in the way of a cure is found in the recurrent menstrual congestion; so it is quite impossible, in many cases of ovaritis, to effect a cure while the patient yields to sexual indulgence. She must live *absque marito*. I have found that those patients with ovaritis who come to this city for treatment, and who are thus removed for a time from the stimulus of sexual excitement, recover more rapidly and permanently than others of my patients, who, while being treated, are obliged to remain at home. There are, however, a few exceptions to this rule.

Proscribe sexual intercourse.

LECTURE XLVI.

OVARIAN NEURALGIA—OVARALGIA.

Ovaralgia. Etiology. Clinical history of. Diagnosis. Prognosis. Treatment. *Ovarian Irritation. Case.*—Causes, nature of. *Case.*—Remedies.

An eminent author has insisted that the ovarian stroma is the sexual center of the female organization. Whether or not this theory is true, it is certain that this spongy structure is erectile, and therefore subject to extreme vicissitudes in respect of its circulation and innervation. For the ovaries are well furnished with blood vessels and nerves. This is a necessary condition of their functional activity which, as in the case of other delicate organs, implies the possibilities of diseased states that shall arise from a derangement in their nutritive and nervous supply.

In health the ovaries are not sensitive. Enclosed in their fibrous capsule (tunica albuginea,) they float out of harm's way. But, under some peculiar or periodical excitement of the generative system, as, for example, in coitus, menstruation, pregnancy, or parturition, they are liable to become irritated, congested, inflamed, or the seat of severe neuralgic pain. And since "women are always about to menstruate, or menstruating, or ceasing to menstruate; or the womb is gravid or going to become so, or it is recovering from the parturient state; these organs have never an even, steady tenor of life." Hence the frequency of ovarian diseases, one of the most interesting and troublesome of which is the theme of my lecture this morning.

Peculiar predisponents of ovarian irritation.

Etiology. — The neuralgic diathesis is the most powerful predisponent of ovaralgia. Women who are subject to neuralgia of the face, head, teeth, and other parts, sometimes suffer severely from this affection. In such persons, if anything is wrong in the pelvic region, the pain is very liable to become neuralgic, in which case the rectum, the uterus, the neck of the bladder, or either of the ovaries, may be the seat

The neuralgic diathesis.

of suffering. In this class of subjects the nervous system may have been originally weak and subject to painful disorders, or that condition has, perhaps, been acquired by habits of life, and the surroundings to which the patient has been subjected. We find examples of this kind among seamstresses, who lead lives of toil and anxiety, and who subsist upon tea, with insufficient and improper food, as well as among those who are buffeted by emotional excitement at the expense of their happiness and general good health. Such persons are almost invariably anæmic or chlorotic.

The rheumatic diathesis.

This neuralgic predisposition may be complicated with a rheumatic diathesis. I have treated several patients for neuralgia of the pelvic organs in whom the suffering was directly chargeable to a metastasis of the disease from some other part of the body. My own observation leads me to conclude that the daughters of rheumatic fathers, especially if the parent was of intemperate habits, are particularly liable to this complication. The rheumatic element may be masked, but it certainly modifies the nature of the attack, and should not be overlooked in its treatment.

The hysterical diathesis.

So also of hysteria. Very few hysterical women are exempt from neuralgia. Indeed, it is one of the many peculiarities of hysteria, that the slightest causes implicate the nerve filaments and involve suffering. A local congestion which is temporary, incidental, and self-limited, and which in other persons would be an insignificant affair, in women of this temperament will sometimes give rise to extreme suffering of a neuralgic character. It is true that such patients are prone to exaggerate their sufferings, but still the fact remains, that in hysterical women the peripheral nerve filaments are peculiarly sensitive to causes which induce pain.

Sexual excitement.

The excitement of the generative system to which this class of persons is especially subject, is a fertile source of ovarian neuralgia. Excessive or fraudulent intercourse; ungratified sexual desire; menstrual derangements; emotional influences, as, for example, too much of theatre-going, of novel-reading, of dancing, or of the worry and wear of fashionable society; carrying too much or too little weight in life, and exemption from proper household cares; may cause such

a determination of blood to the pelvic organs, and especially to the ovaries, as shall induce this form of neuralgia.

The same is true of uterine displacements, organic disease of the ovaries and of the womb, of pregnancy, and of the parturient act. Or it may be caused by nervous shock, by contusions or falls, the taking of long rides or walks, lifting, jumping, singing, running the sewing machine, or, what is worse than any other form of exercise for a woman with intra-pelvic disease of almost any kind, the dressing of her own hair.

Organic disease of uterus and ovaries.

Clinical History. — The attack comes on abruptly, and without premonition or apparent cause. Perhaps she is seized while walking, or upon turning in the bed, upon stepping into her carriage, while sneezing or laughing, or, it may be, after the sexual act.

Mode of attack.

The pain is acute, paroxysmal, and, contrary to the general rule in neuralgia, is increased by the touch and by pressure, whether it is slightly or more firmly applied. According to Churchill, the pain is generally much greater than that resulting from ovaritis. It rarely seizes both ovaries at once, but frequently alternates. It is described as sudden, intense, excruciating, stabbing, cramp-like, and is apt to be accompanied by bending of the body toward the affected side, by fainting, falling, vomiting, hysterical spasms, delirium, or diuresis. Sometimes it radiates, and, in chronic cases (as also in those which occur in pregnancy), it may extend along the corresponding thigh. Usually, however, it is circumscribed and limited to the site of the ovary, which, as you know, varies in different women and at different periods.

Kind and degree of pain.

It is not uncommon for the patient to describe the pain as accompanied by a sensation as if something would burst in that locality. At other times she recognizes a sense of compression, of stricture, or of strangulation. Something upon which she puts the tips of her fingers feels as if tied up tightly. In some cases she cannot lie down, in others to stand is impossible. The pain remits, but does not, as a rule, pass away suddenly. The paroxysm is very liable to recur.

Peculiar sensations.

When it occurs as a contingent of dysmenorrhœa, the pain is "sickening" in character, and peculiarly distressing and exhaust-

ive. In this class of cases, Rigby says, the pain is chiefly confined to a spot about an inch above the middle of Poupart's ligament, frequently extending to the back, and sometimes down the thigh. Ovarian neuralgia is more likely to set in at the very beginning of the period, than after the flow has commenced. It may recur in case the menses come on scantily for a few hours, or a day, and then stop for a little, and finally return more freely. This intermittent form of menstruation is very apt to be accompanied by more or less neuralgia of one or both ovaries, upon the existence of which, indeed, it may be dependent. For the neuralgia may cause the menstrual irregularity, and *vice versa.*

When incident to menstrual disorders.

An engorged state of the ovary is undoubtedly the source of suffering in this disease. From the afflux of blood to it, the substance of the organ becomes swollen. Its fibrous envelope being firm and resistant, limits the expansion of the erectile tissue which it contains, binds it down, compresses it, strangulates it, and intense pain is the direct and inevitable result. Whatever means are capable of relieving the congestion will put an end to the paroxysm.

Cause of the pain.

So likewise the existence of old, inflammatory adhesions between the ovaries and other pelvic viscera, may cause this spasmodic or congestive neuralgia, through a permanent displacement of the organ. Such an attachment may be unnoticed and harmless until the period of pregnancy has arrived, in which it is necessary that the ovary should ascend beside the womb above the superior strait. "If the peritoneal adhesions be slight, they may perhaps get ruptured as the uterus enlarges; the patient will suffer from severe hypogastric pains, especially during the second and third months, and there is sure to be very troublesome sickness."* But if these adhesions, which are sometimes strengthened by fibrous bands and exudations, that have cemented the ovary very firmly, are not broken, the suffering may either persist to term or it may result in abortion.

Peritoneal adhesions.

Diagnosis. — You can diagnosticate ovaralgia from ovaritis by the absence of a chill, fever, or other constitutional symptoms at

* Tanner, on the Signs and Diseases of Pregnancy. Phila., 1868; p. 239.

the outset; by the suddenness of the attack; the intensity of the pain, which is limited to a small extent of surface; by the acuteness and brevity of the paroxysm; the absence of *burning* pain in the affected part; by the fact that it occurs most frequently in nervous, hysterical persons; by the self-limited nature of the disease; and its different modes of termination.

From ovaritis.

The location of the tumor (in case the ovary is very much swollen), the kind of pain complained of, the lack of impulse in the tumor when the patient coughs, its occurrence in one of a neuralgic diathesis, and the impracticability of taxis, would differentiate the worst case of ovarialgia from all forms of enterocele.

From hernia.

In neuralgia of the womb the pain extends over a larger surface, is more marked in the hypogastric than in the iliac regions, never alternates between the two sides of the pelvis or abdomen, is less sudden in the beginning, and less excruciating in degree, seldom follows the course of the sciatic nerves, and is not so apt to leave abruptly as in ovarialgia.

From uterine neuralgia.

Prognosis. — This is generally favorable. No one ever dies directly of ovarian neuralgia, any more than from its more ordinary forms. It may, however, through its persistence and severity, induce such diseases of the ovaries, or of the uterus, or of both, as will ultimately give rise to very serious consequences. Or, in a reflex way, it may light up and perpetuate such sympathetic disorders of the heart, of the lungs or even of the brain, as eventually will terminate disastrously.

Indirect results.

It is not always safe to promise a radical cure. Rheumatic and hysterical complications are tedious and intractable. The same is true of the contingent irregularities of menstruation. In most cases, in brief, it is so difficult to control the patient's habits and surroundings, as well as the emotional and sexual influences to which she is subjected, that we can only hope to afford temporary relief.

Qualify your prognosis.

When it occurs during pregnancy, this painful affection is self-limited, generally disappearing after labor. If, however, the adhesions have prevented the ascent and development of the

gravid uterus, there is danger of abortion, in which case the risks of premature delivery are added to those of the neuralgia.

Treatment.—The preventive treatment of this disease is very important. It consists in removing all causes of undue sexual irritation and perturbation; in regulating the kind and degree of exercise to be taken; in changing, if need be, the whole mode of life and habits of the patient, and in curing the diseased conditions upon which this painful affection may depend. Among the items which come under the latter head, none is more prominent and practical than to order such a diet and such general hygienic relations as will improve the quality of the blood. In neuralgia, nutrition is very apt to be impaired. There exists anæmia, or the woman is chlorotic, and while this state of things continues, a cure is impossible. If we would restore those who are ill to their wonted health, it is our first duty to supply the conditions upon which health depends.

Prophylaxis.

Milk is the best standard for blood, and should be used, in one form or another, by this class of patients. The whites of eggs, lean meats, game, salt water food, and vegetables, afford a list from which to select what is palatable and nutritious. The diet should be varied from time to time. If the appetite has failed it may be stimulated by the temporary use of pepsin, as sold in the shops, by the extract of malt, or by the taking of malt liquors in small quantities.

The diet.

If the disease is complicated with rheumatism, great care should be taken to protect against vicissitudes of weather, and especially against taking cold. As a precautionary measure of this kind, I have sometimes directed my patients to wear two or three layers of flannel over the abdominal and hypogastric regions, in the form of an apron applied directly to the integument. A batch of uncarded cotton may be sewed into the clothing and worn in a similar manner. The feet should always be kept dry and warm, but more especially "at the month." Because of the erratic nature of the disease, and its liability to metastasis to the ovary, you should remember that revulsive applications to the seat of rheumatic inflammation, when it is located in other parts of the body, are particularly hazardous in the case of women who are subject to sexual

For the rheumatic complications.

derangements. The same is true of the use of the ointments which are sometimes prescribed for cutaneous eruptions.

During the paroxysm we must institute measures to relieve the suffering as speedily and safely as possible. In every variety of acute painful disorder which is located in the uterine or the ovarian regions, warm applications are more grateful and soothing than such as are either cool or cold. This is especially true in case of intra-pelvic neuralgia, upon which the warmth seems to act as a species of anodyne. Aran's expedient of introducing the speculum, and filling it with powdered ice for the relief of ovarialgia, is too harsh, and might be indirectly injurious.

Palliatives.

Warm applications better than cold.

Acting upon the clinical hint that warmth is better than cold, we may order the application of flannels or towels that have been dipped in hot water, or of dry heat in some available form, directly to the seat of the pain. If the suffering is of traumatic origin, one part of the tincture of arnica may be added to ten of hot water and applied locally. If it is rheumatic, the extract or the tincture of hamamelis, or of aconite, may be used in the same manner. Or the same substances mixed with warm water and glycerine, may be thrown into the rectum or into the vagina. If the attack is incident to dysmenorrhœa, the warm sitz-bath may be serviceable.

Topical expedients.

Sometimes the pain will be made to vanish by the topical application of the strong tincture of the aconite root. Or a very little veratrin dissolved in glycerine, or mixed with simple cerate, may be rubbed in gently. A mixture, consisting of chloroform one drachm, and olive oil and glycerine each one ounce, may be applied to the integument covering the tender ovary, or, better still, introduced into the vagina, by means of a cotton tampon which is saturated with it. A thread should be attached to the tampon to facilitate its removal. It may be allowed to remain for some hours. An injection of the same substances may be thrown into the rectum. You should remember, however, that, owing to contiguity of structure, injections thrown into the rectum for the relief of ovarian pain, are much more useful and prompt in their action in affections of the left than of the right ovary.

In exceptional cases the suffering depends on the presence of

dry, hard, fecal matters lodged in the rectum, and to unload the bowel affords immediate relief. In very severe cases of ovarialgia, if the means were at hand, the ether spray might be applied to the iliac region with excellent effect. Unless complicated with hysterical spasms, general anæsthesia is not necessary.

Remove fecal accumulations.

I know that these and kindred expedients are prohibited by some physicians, who insist that they are both unnecessary and harmful. But it is my duty as a teacher to acquaint you with resources that may be useful in emergencies, and which are sometimes permissible on the score of humanity. It is for yourselves, and not for others, to say whether and how often you will employ them.

Of the various internal remedies for ovarialgia, perhaps the valerianate of zinc is most frequently prescribed. It seems especially adapted to the relief of the different forms of neuralgia which are engrafted upon the hysterical constitution. For it obviously has some specific curative relation to the ovaries themselves, and through them, to the whole nervous organization of woman. It will sometimes put an end to the paroxysm at once, but its best effect is in preventing a return of it. It may be given in the third decimal trituration, and repeated from two to four times daily. If the patient has ovarian neuralgia before menstruation, she may anticipate its return and avert the suffering by taking a few doses of this remedy a day or two in advance of the period.

Valerianate of zinc.

Atropine is useful under the same indications for which belladonna is generally given. In very severe attacks it may serve to stop the pain, quiet the nervous perturbation, and promote rest and sleep. The cases to which it is most appropriate are those in which there is a strong tendency to ovarian congestion, with intolerance of light and noise, dilatation of the pupils, and delirium; also, when the ovarialgia is accompanied, as it sometimes is, by vaginismus. When the menstrual return is characterized by downward pressure of the uterus, as if it would be forced out at the vulva, and in consequence the patient is obliged to lie in bed for some days; and when there are incidental paroxysms of acute pain in either ovary; this remedy is almost specific. Two grains of the third

Atropine.

trituration may be dissolved in half a glass of water and a teaspoonful of the solution given every one to three or more hours. Or it may be given in small powders dry upon the tongue. In some cases, however, there is such a susceptibility to the action of atropine, that you will be obliged to substitute it with belladonna in a medium or higher potency.

Colocynth.

Colocynth is applicable to neuralgia in the inguinal region, with boring, tensive, or stitching pains in the ovary, in case the symptoms resemble those of hernia, contractive pain in the stomach, with eructations, nausea, pallor, coolness of the extremities and cold sweat. Also if there is incidental colic, with disposition of the patient to bend herself double.

Other remedies which may be useful are cantharis, coffea, chamomilla, cocculus, cuprum met., ignatia, platina, pulsatilla and sepia. For their special indications I must refer you to the materia medica.

Naja.

Dr. W. H. Holcombe reports* that, while giving naja to a very intelligent patient, a physician's wife, for organic disease of the heart, "she complained that it contained a symptom altogether new to her—a violent, crampy pain in the region of the left ovary." "I met," he says, "a similar case a week afterwards, and gave naja, 3d. It was relieved immediately. I have verified its value several times. Not a month ago I had one of those severe cases of ovarian congestive neuralgia—for that is the best name I can give it. It had resisted chamomilla and hyoscyamus, both at the 6th; generally my first prescription. I was about to prescribe caprum metallicum, 6th, (which is excellent in those cases), when the patient related the curious fact that she had violent palpitation of the heart whenever the ovarian pain came on. I gave naja, 3d, and both symptoms disappeared as if by magic."

Ammonium muriaticam.

My friend, Dr. R. N. Foster, of this city, has confidence in the third decimal trituration of ammonium muriaticum.

Ignatia.

Those members of the class who attended the last meeting of the Chicago Academy of Medicine will recall Dr. Ballard's report of a very interesting case of this disease in a pregnant woman. The affection occurred in

* United States Medical and Surgical Journal, Vol. I, p. 234.

her first pregnancy, and was uncontrollable by the old fashioned means. She went through to term, however, without serious accident. In the second pregnancy the same symptoms came back again, and she suffered extremely. The paroxysms of pain, sometimes in one ovarian region and again in the other, came on almost daily. She was extremely nervous, with headache, and the slightest noise startled her. The doctor prescribed three powders of ignatia, 200th, one to be taken every night. The paroxysms immediately became less severe in degree, and less frequent, some weeks elapsing between them, and she got through safely, with much less suffering than before.

If I may judge from my own observation, the cimicifuga is a good remedy for ovarian neuralgia occurring in rheumatic subjects. It seems also adapted to women of dark hair, eyes, and complexion, and to those who are the children of intemperate parents. In this latter class of subjects it is suited to the relief of contingent attacks of hysteria, dysmenorrhœa, intense reflex pains, as, for example, angina pectoris, or the characteristic infra-mammary pain in the left side of the chest.

Cimicifuga.

OVARIAN IRRITATION.

Case.—Mrs. K——, English, 54 years old, the mother of eight children, has been in poor health ever since her "change," which occurred seven years ago. Prior to that she had always enjoyed good health, although she confesses that she "was always very nervous." Once, however, she has had a pretty severe attack of gout in her right foot, and occasionally rheumatic lameness in her right arm. It was her habit, while she continued to menstruate to flow more freely than most women, and after the birth of some of her children she had severe hæmorrhages. But, notwithstanding this, the climacteric passed without any flooding, or any dangerous symptoms whatever. The only complaint for some months after the flow had ceased was of a congestive headache, which alternated with a severe aching, sickening, burning pain in the left hypogastric and iliac regions. Finally the headache left, but the ovarian sufferings continued.

For some weeks past she has been subject to occasional outbreaks of diarrhœa, which alternate with constipation, with scybalous stools and cutting colicky pains in the abdomen. She is extremely nervous and excitable, has globus hystericus and very copious urination now and then, and finds herself "very uncertain."

On inspection the abdomen is uniformly distended. There is evident meteorism, which is general. Palpation does not disclose the presence of any tumor or enlargement. The left ovarian region is tender to the touch and to moderate pressure, but not especially so to firm pressure with the tips of the fingers. The os uteri is not abnormal. The uterus is *in situ* and mobile. The sound passes readily to the depth of two inches by actual measurement. Bi-manual examination does not reveal anything abnormal.

The subject of ovarian irritation, first described by Gooch, has of late acquired a new interest. In 1878 Dr. Fothergill published a very interesting and practical paper on a form of this affection which he termed *ovarian dyspepsia*. This is a reflex disorder, as much so as the vomiting that is a constant symptom of a calculus in the pelvis of the kidney, or the cough of pregnancy, which is known in Scotland as "a cradle cough." It is the direct and immediate consequence of the ovarian irritation. Dr. Fothergill says:*

Ovarian dyspepsia.

"All who have seen much of practice are familiar with these trying cases, which seem to go on unaffected by remedial measures, until the malady seems to wear itself out; to be succeeded by a long and tedious convalescence. It would seem that at last the condition of general mal-nutrition starves down the congested ovary till it ceases to set up and send out those perturbative nerve-currents which excite the gastric disturbance. Then the stomach settles down and resumes its ordinary duties once more without disorder. The case lingers on unrelieved because its real pathology is not recognized. The stomach is treated, and not the ovary. The gastric disturbance is not primary, but reflex. Its causation must be comprehended, and the treatment directed accordingly, and the improvement will follow."

If your experience accords with my own, I think you will find that the class of subjects who suffer most from this peculiar form of ovarian irritation, are those who have been treated for a long time, and by very harsh means, for an alleged ulceration of the cervix, and also those who are predisposed to phthisis. If you observe carefully, you will find that in chronic digestive disorders occurring in women who are advanced in their menstrual life, there is often a state of hyperæmia of one or both the ovaries that Dr. Barnes has styled "oophoria" which needs o be relieved and cured before the gastric disorder will yield.

Ovarian irritation is not an infrequent sequel to the climacteric.

*The American Journal of Obstetrics, Etc., Vol. XI, page 17.

It is often the cause of ill health among those who, like this woman, have ceased to menstruate. But there is a combination of circumstances which constitutes a strong predisponent to this affection in such persons, and which is well illustrated in the case before us. Her habit of menstruating very freely, while that function was intact, and of flooding in childbed; her rheumatic diathesis; and her hysteric constititution, render it almost impossible for her to have escaped the disorder from which she is at this moment suffering.

At the climacteric.

Complications.

Fortunately, she did not experience any severe or alarming hæmorrhage at the ménopause. In this respect the menstrual function ceased without any untoward symptoms. In so far, her case was an exception to the rule that the hæmorrhagic diathesis predisposes to critical floodings, which may damage the general health, and endanger life. But this very exemption may have acted as an exciting cause, and prompted the development of the rheumatic and hysterical tendencies. As a matter of course, under these peculiar circumstances, the ovary (and the left ovary especially) would be more liable to implication than any other organ.

Analysis of the case.

Hence a train of symptoms that are compounded of hysteria and rheumatism. If, instead of being predisposed to these affections, she had had a constitutional bias toward cancer, dropsy, or tuberculosis, the result would have been very different, and the case would probably have developed into one of cancer of the womb, or of the mammary gland, or she would most likely have had an ovarian cyst, or some form of phthisis.

Clinical inference.

You can scarcely err in ascribing a sickening, burning pain, with aching in either of the iliac regions, to irritation or inflammation of the ovary. No matter what other symptoms are superadded, if this is frequent or constant, the primary lesion is in that organ. The patient may have any of the manifold signs of hysteria, or she may have indigestion and diarrhœa, or constipation, or all these in alternation, and yet the focal point of the disorder will be either in one or in both the ovaries.

A pathognomonic sign.

Among the exciting causes of ovarian irritation which we have

not already enumerated, are the indulgence of such habits, and the subjection to such emotional influences as tend to derange the circulation and innervation of the generative organs. One of my patients had this disorder in a most intractable form in consequence of taking vaginal injections of cold water, and sometimes of ice-water, several times daily for more than two years. In another it was caused by horseback riding. It frequently originates in the sudden arrest of a leucorrhœal discharge by astringent injections. A fertile source of this affection is the habit of staying at home, and of going very little into the open air; for, contrary to what you would suppose, nothing allays a sur-excitation of the female sexual system like exercise or exposure out of doors.

Exciting causes.

In order to show you how these simple causes operate, and how complicated the resulting affections sometimes are, I will read you the notes of a case in which I was recently consulted by my friend and former pupil, Dr. A. W. Woodward, of this city, who has reported its history for me:

Case. — Mrs. B——, a middle-aged, slender, and somewhat delicate woman, with three children, has usually enjoyed good health. During the last few months she has been too closely confined with family cares, and spent too many hours at the sewing machine. In consequence, she began to be troubled with a more or less severe pain, sometimes acute in character, located in the left hypogastrium. This pain is aggravated by standing upon the feet for any considerable time, and is much more severe and continuous just before the menses. It extends through the whole length of the left limb. The flow had always been normal until within the last two months, since which time it has been both protracted and profuse.

A lady practitioner diagnosticated "retroversion and prolapsus," and treated her by a severe and prolonged application of galvano-electricity. As a consequence the patient was completely prostrated, the pain was greatly increased, and instead of being merely indisposed, she became quite ill. At this stage I was called in, and finding no signs either of retroversion or of prolapsus, or of anything to contra-indicate the use of stimulants, they were given, with good effect. Hot fomentations relieved the pain, and as this subsided it was followed by a copious diuresis, for which I gave ignatia.

This remedy was continued until the next day, when I found her with heat and slight swelling in the region of the left ovary.

a rapid pulse, thirst and headache. The pain still continued, but was throbbing and not of the "sickening" kind that she had had before. I prescribed atropine and mercurius sol., and although she had a marked chill followed by heat during the afternoon, these remedies were given until the next morning. Arsenicum caused the strength to return, the pain to be lessened, and there was no sign of a chill for several days.

But as the ovarian difficulty subsided, the stomach began to be deranged. At different times anorexia, cramps, acid eructations and vomiting were present. The symptoms would yield very readily to nux vomica, and then be followed either by a return of the ovarian irritation, by diarrhœa, or by a chill, after which these different affections would terminate with a profuse flow of urine. Then the same series of gastric, intestinal, ovarian and febrile symptoms would recur and run through their course as before. There was, however, no apparent order in their coming, excepting that the diuresis came last.

A peculiar "thorn in the flesh."

The remedies that we prescribed jointly did this patient but very little permanent good. It was not until the cause of her suffering was discovered, or rather until it disclosed itself, and was removed, that she got well again. This cause proved to be the presence of a pestilent old female relative, who gave the poor woman no peace, upset her domestic affairs, and finally proposed to carry off her valuables in the wrong trunk!

Remedies.

Having already detailed the proper means of preventing this form of sexual irritation, and of its general management, it only remains to speak of the remedies that may be indicated. Among these the most prominent is macrotin. In many cases it is an invaluable, and indeed an indispensable remedy. Belladonna, atropine, ignatia, rhus tox., zincum val., platina, colocynth, china, chamomilla, hamamelis, and the lilium tigrinum are equally useful under their appropriate indications.

The symptoms, in the case of Mrs. K., call for ignatia. She will therefore take this remedy once in three hours, and report. I have no doubt that it will relieve much of her suffering, but this does not justify me in claiming that it alone will effect a radical cure.

LECTURE XLVII.

HYSTERIA.

Hysteria. Case.—Menstrual disorders in. *Case.*—Incongruous symptoms of. Malingering. *Case.*—Diagnosis, from cardiac disease. *Case.*—from asthma, apoplectic aphonia, and insanity. Dr. Chairon's pathognomonic sign of.

Although I have already given you a clinical outline of hysteria, the subject is by no means exhausted. Indeed, there is enough in this single topic for a whole course of lectures. For this disorder modifies and complicates almost all the diseases to which women are liable.

Case. — At 7 P. M. of yesterday, I was hurriedly summoned to the relief of Mrs. ——, aged 20 years, three months advanced in her first pregnancy, who was seized while at the tea-table with an unnatural staring and blindness, followed by a species of fit, which greatly alarmed the husband and family. I found her lying in an unconscious state upon the floor of the dining room. The eyes were staring widely and wildly, and at times the eye-balls were rolled upwards as far as possible. The pupils appeared natural, excepting at intervals of from five to ten minutes, when a general spasm of all the muscles of the extremities ensued; they would suddenly increase in size and become very large. With the approach of this symptom the face would flush, and she would roll from her left to her right side. The arms were thrown wildly about, and during the fit it was almost impossible so to hold her as to prevent her from doing herself a personal injury. Each paroxysm ended with sobbing and an attempt to articulate. The pulse was 80 and quite regular. From her manner it appeared that she was dreaming and talking, or holding intercourse with some person not present in the room, or at least not visible to the attendants. While the fit was on, the facial muscles twitched violently, but there was no frothing at the mouth, or purplish discoloration of the face. The carmine hue which came and went, however, caused her to appear very beautiful.

I ordered a plentiful supply of fresh air, the clothing to be loosened about the throat and waist, and belladonna 3rd to be given

her (very slowly) once in twenty minutes until the fits ceased, and after that every half-hour until I called again.

9 P. M. She had only one paroxysm after taking the first dose of the medicine, but the emotional outbreaks had become more marked. She would exclaim, "Oh, so dark!" then talk incoherently, and finally cry and sob for some moments most pitifully. After a little it became evident through her speech that she was in communication with her mother, who, it was said, had died five years before. This last symptom was looked upon as supernatural, and alarmed the bystanders exceedingly. They declared it to be a premonition, and unfailing sign of the speedy departure of the patient for the land of spirits; but the husband told me that she had frequently had similar attacks, and that in all of them she had shown this same symptom.

By my advice she was carried from the sofa to her room, placed quietly in bed, the half dozen voluntary nurses discharged, and she left alone with her husband for the night. This morning he called to report that his wife had slept soundly for some hours, and now appeared quite well, although a little weak.*

Hysterical attacks usually bear some relation to the menstrual period. A woman is ill with a protracted and debilitating disease, as for example pneumonia, or typhoid fever. Perhaps she has escaped one or more "periods." But the return of the monthly cycle is shown in a peculiar aggravation of the coincident nervous symptoms. In lieu of the proper flow, she becomes unusually wakeful, restless, fitful, or disheartened. Nothing pleases or satisfies her. Her nurse is charged with neglect, she thinks that her friends have become heartless, or that her physician has lost interest in her case. In consequence her family take alarm, and unless he understands his business very thoroughly, the doctor may be led to make an unfavorable prognosis. The perturbation reacts upon the patient, who is very impressible, and the hysterical flame grows by what it feeds upon. The neighbors clamor for "counsel," or for "a change of treatment," and are permitted to have their way. The physician who is called in may or may not have tact enough to recognize the real condition of the patient. If he can separate the hysterical element, can date the exacerbation from the recurrence of the month, can proceed quietly to the cure of the origi-

Hysteria and the menstrual molimen.

* Although similar attacks occurred at the fourth, fifth and sixth months, this patient reached term without any further mishap, and was finally delivered of a healthy ten-pound child. She had no convulsions in child-bed.

nal idiopathic disease, all may yet be well. Otherwise she may continue to grow worse instead of better. The issue may depend entirely upon his skill in diagnosis. The distinctive feature of hysteria will sometimes enable you to decide whether those women who are ill with acute disease are really in so dangerous a condition as they appear to be.

Hysteria during gestation.

Although child-bearing, if it be not too frequent or exhaustive, is a good general prophylactic of hysteria; and although pregnancy may exempt from an attack of it, the opposite effect may follow conception and the arrest of the menses. When, as in this case, the disease comes in distinct paroxysms during pregnancy, the fits are more likely to recur at or about the time the patient would have menstruated. This fact explains the liability of their developing into a form of ante-partum convulsions, of which I have already spoken; and also the increased risk from abortion, which, for physiological reasons, is more imminent at the month than at other times.

Emotional causes of.

Attacks of hysteria occurring as a concomitant of other diseases, or as a contingent of pregnancy and lactation, may safely be referred to some emotional excitant. The previous disease, or condition, has caused such debility and prostration, as powerfully to predispose to nervous derangement, and the patient is an easy prey to the depressing emotions. She may be borne down by influences which, under different circumstances and at other times would have had little or no effect upon her. And these circumstances include a list of avoidable causes which in themselves are so small and apparently insignificant as frequently to escape notice. We are very apt to forget — if indeed we ever knew — that it is possible for psychical causes alone to derange the blood-making process, and to poison the very fountain of life. If violent mental emotions will prevent the blood of a healthy person from coagulating when it is withdrawn from the body, they certainly are capable of destroying life, as by a slow poison, when they are brought to bear upon an organism in which the blood is already impaired and impoverished to the last degree by previous disease. I apprehend that thousands of patients have died when otherwise they would surely have recovered, because

Possible effects of.

at a most unfortunate moment they were seized by fear and apprehension, by grief or fright, or jealousy, chagrin, disappointment, or some form of mental depression and agitation, from the fatal effects of which they could not be rallied. In illustration of this view I may mention the following

Case.—I was called from my hotel at 2 A.M., December 6, 1861, to visit a most estimable lady who was said to be dying of typhoid fever. She had been ill for five weeks under the charge of another physician, and had had a morbid fear of death from the onset of the fever. The doctor and the counsel had left her at 8 P.M., of the previous evening, after having told the family that she could not possibly survive the night. My friend, the messenger, insisted upon my visiting her and giving her something "to make her die easily," as much on his own wife's account and that of others in the house, as from motives of humanity. Her clergyman had visited her soon after the doctors left, and her friends had bidden her a final adieu. She then became apparently unconscious, and passed into a peculiar mental state, in which the nurse told me she had a vision of her mother, who had died some fifteen years before. She then began to exclaim, over and over again, "Oh, my blessed mother!" which phrase she had continued to repeat so that every one in the house could hear it. Sometimes it was spoken distinctly, and again she mumbled it, so that one could not understand what she was saying; but it was always in the same dreary monotone, which was anything but cheerful in the middle of the night, and under such painful circumstances.

I asked the nurse if the patient could see? She assured me that for several hours she had been entirely blind. Could she swallow? No. Between her exclamations, I thought I detected the woman looking at me askant and in a peculiar way. I attempted gently to part the eyelids, in order to look at the pupil of the eye, but they were so suddenly and decidedly closed as to betray a species of volition somewhat inconsistent with the alleged danger. The pulse was 115, distinct but excited. I called for some water and a spoon. When I separated the lips to put a little of the water into her mouth there was a similar resistance. The mouth was closed firmly, almost, "with an audible snap," as the surgeons say of the sudden reduction of certain dislocations. A little tact enabled me to get the water into her throat, and to compel her to swallow it. I was impressed with the idea that she was really in a semi-conscious state, and that some of her symptoms arose from a morbid desire to excite sympathy, or, briefly, that they were hysterical.

A dose of ignatia in the third decimal attenuation was given her immediately, and the nurse was directed to give another in

half an hour, and a third also in case she did not become quiet and fall asleep. The room was to be cleared of all the friends who had come to witness her death; she was to be "let alone severely," and no one, excepting the nurse, permitted to remain with her. The husband and relatives were assured that the danger was more imaginary than real, and that if she could sleep and be properly nourished, she would almost certainly recover.

She soon stopped the dreary talk about her mother, became calm and fell into a quiet sleep, from which she wakened at short intervals. In the morning she was better. She took no other medicine, was well fed, and her funeral was "indefinitely postponed." Eleven years have elapsed, and she is still alive.

Now, gentlemen, you shall decide whether, if some one had not recognized the real condition of things in this case, and changed it very decidedly, the circumstances which surrounded that woman in her weak condition, might not have overwhelmed her and caused her death.

A practical inference.

The well-known tendency of hysteria to imitate other diseases has in it a tinge of deceit. It may simulate almost any affection so closely, as to puzzle the best diagnostician, and to disappoint the most skillful practitioner. Or it may complicate other maladies by counfeiting single symptoms. Women of an hysterical constitution seldom pass through the different stages of an acute inflammation, or fever, without some peculiar experiences and revelations which are totally foreign to the special pathology of the disease in question. These complications may be classed as hysterical.

Enigmatical nature of hysteria.

In such cases you will observe that those symptoms which are incidental and least important, are liable to be incongruous and very much exaggerated. If, for example, such a patient has pneumonia, the physical signs will not be such as should correspond to her complaints of pain and suffering, and to the assumed character of the cough. The sputa may tell one story and her tongue another. Or, if she has dysentery, there may be a similar lack of congruity between the symptoms of which she complains, and the visible, objective phenomena. Taking the impress of this peculiar idiosyncrasy, or dyscrasia, the nervous symptoms, and especially the delirium of such a subject, in typhoid, or puerperal fever, will be very greatly modified. In

Suspicious symptoms.

each case the symptoms which are proper to the disease will be supplemented by others which are spurious, and also by a more or less decided uproar among the physical functions. And thus it may happen that your wits will sometimes be taxed to decide which is fact and which fiction. The spurious, contingent and irrelevant symptoms are the most noisy and clamorous, but not most significant and perilous. The complaint that is made is not always a reliable criterion of suffering and danger.

Hysterical exaggeration.

The hysterical subject, whether male or female, is addicted to hyperbole. The symptoms of which I have spoken resemble an over-anxious witness at court, — they testify to too much. They are actors who "mouth their part." This tendency to exaggeration is a suspicious element which will bear watching. It is so closely related to the lying propensity as almost certainly to betray its true character. You will require a large measure of tact and common sense for its detection.

Incongruous symptoms.

The gossip takes the scent of an ill-assorted marriage, and of marital and social infelicities, with the instinct of a hound and the tact of a savage. In his diagnosis the doctor is perhaps more easily deceived and decoyed. He is generally less shrewd and less skillful in his discrimination. It may not have occurred to him that symptoms, like individuals, are sometimes married without being mated. As the fruit of large experience and observation, I am persuaded that one great and essential difference between physicians consists in their varied ability to separate, to seize upon, to interpret and to remedy those symptoms which are truthful, characteristic and legitimate, to the exclusion of such as are of secondary importance, fictitious, accidental and irrelevant.

A species of malingering.

There is a species of malingering which is a curious feature in some cases of hysteria, a marked example of which came under my own observation some years ago.

Case. — A young lady of sixteen fell ill with the usual symptoms of spinal irritation. She soon complained of a loss of power to move the left arm, then the right one, and successively the lower limbs also. For eight long years the bed-ridden subject of this affliction could neither stand nor feed herself. The sympa-

thies of the best women of the neighborhood overflowed in deeds of kindness and of charity to the poor sufferer. Finally the nurse observed that when she was left alone the patient would sometimes get possession of articles that were distant from her bed, and this without the aid of a third party. By and by a plan was arranged to discover if she really did leave her bed in the absence of others from her chamber. She was notified that for a short time she would be left alone in the house. They watched her, and ten minutes after the alleged departure of the family she was seen to rise and walk off as well as anybody. The spell was broken and she recovered immediately.

If the consequences of this species of fraud were limited to the friends and relatives, who are usually victimized, they would be less troublesome and more easily remedied. But the worst of it is that the patient may also deceive herself. The sympathy and anxiety of her friends may cause their judgment to be too easily influenced; and the mental and physical weakness of the patient may finally lead her to believe that her symptoms are real, and not assumed, as she knew them to be at the beginning. For it is possible that a sick person may lie to himself, or herself, and not be able to detect it. In hysterics self-deception is frequently compounded with the intent to impose upon others. And you will learn from experience that it is much easier to correct the impressions of those who surround the patient, than it is to dislodge these reflex ideas from the mind of the woman herself.

Secondary effects upon the patient.

In diagnosticating the various forms and complications of hysteria there are a few signs which almost deserve to be classed as pathognomonic. These are (1) that, as a rule, the disease is limited to females, and in them to the period usually termed "menstrual life," *id est*, between the ages of fourteen and forty-five; (2) that, while it may simulate, succeed, or complicate any other disease, its symptoms are much exaggerated, irregular, and out of proportion with those which properly belong to that disease, whatever it may be; (3) that, in general, however great the disorder among the functions, the pulse is not changed, and the appetite is more frequently excessive than deficient.

Leading characteristics of hysteria.

Diagnosis. — The cardiac affections with which hysterical disorders are sometimes confounded are valvular lesions, dropsy, and alleged displacement of the heart.

When they do exist, the symptoms of valvular disease of the heart in hysterical subjects are almost invariably associated with chloro-anæmia. The blood is impoverished. The rhythm of the heart's action is disturbed, and there is fluttering and præcordial oppression, palpitation and an exaggerated impulse against the thoracic parietes. In chronic cases there may be dropsy of the feet and of the face.

From valvular disease of the heart.

Physical exploration will enable you to decide between real and spurious lesions of the valves. In *bona fide* disease of the valves, either the first or the second sound of the heart is impaired in its quality, or its place is supplied by an abnormal murmur. If the first of these is implicated or superseded, we know that the auriculo-ventricular valves are diseased; if the second sound is changed, that the semilunar valves are the seat of the difficulty. In hysterical affections which counterfeit this form of endo-cardial lesion both the cardiac sounds are normal. With the first sound of the heart, however, we note the soft bellows murmur of anæmia.

This adventitious sound arises from a change in the quality of the blood, as well as from deranged innervation of the heart itself. Both sets of valves perform their function properly, and although there is palpitation and dyspnœa, yet there is little or no change in the pulse. The dropsy of the feet and of the face, when it does exist, are of hæmic origin. All the physical signs of valvular disease are lacking. There is neither patency nor constriction of the orifices, and no insufficiency of the valves that could possibly give rise either to obstruction or regurgitation.

Case.—Miss ——, aged 22, came to this city from Vermont in order to consult me for the relief of præcordial symptoms which had troubled her for three years. Her disease had been pronounced a valvular affection of the heart, and she had already been treated by three physicians. She complained of languor, lassitude, and anorexia, with disgust for meat of all kinds, of which she had eaten none for more than two years. The bowels were habitually constipated. The slightest exertion caused fatigue and a distressing dyspnœa. The recumbent posture was most agreeable; indeed, she could rest in no other. There was almost complete insomnia. When she did sleep she was not refreshed, but awakened with renewed apprehension. The complexion was pale and chlorotic, the alæ nasi and lips colorless. The pulse 82, weak and compressible, but regular. There was occasional palpitation

and painful oppression of the left chest, particularly after exercise and when lying with the head low.

Auscultation revealed the bellows murmur accompanying the first sound of the heart, and I felt confident that what had been mistaken for organic disease of the valves was really chargeable to the deteriorated quality of the blood. She was treated for the chloro-anæmia, and the cardiac symptoms soon vanished. In three months she was quite well, and has continued so during an interval of six years.

From dropsy of the heart.

Women who are supposed to have dropsy of the heart sometimes complain of great difficulty of breathing after exercise, of orthopnœa, of cramping, cutting pains in the cardiac region, of stifling sensations, of a stoppage of the heart's action, or of a feeling as if it had suddenly turned topsy-turvy, of gurgling, and even as if the heart were pulsating in a collection of water. And yet all these symptoms may be found to represent a spurious affection. In diagnosticating true from false hydropericardium you should remember that, in the adult subject, the former is almost always a sequel of rheumatic pericarditis. This is not true of the hysterical disorder, which, in its objective symptoms only, resembles dropsy of the heart. In real hydropericardium the heart-sounds, the respiratory murmur, and the vocal resonance, as well as the pulse, are always implicated. The nutritive function is impaired, the blood is thin and impoverished, there is a tendency to dropsy of the joints and lower extremities, as well as to general anasarca. But in the spurious variety the very opposite is true, and no such concomitants are present.

Hydropericardium has no necessary specific or ætiological relation to menstruation and its several disorders. It is a dangerous disease, more especially if the patient is of a dropsical diathesis, or if she has had some previous difficulty with the heart, the larger blood vessels, or the lungs. Hysterical derangements are intimately connected with ovulation, both with respect to their commencement at puberty, the recurrence of the attack, the aggravation of the symptoms at the "period," the modification induced by pregnancy and lactation, and also their cessation at the climacteric. They are always more alarming than serious.

It is not an uncommon occurrence for a hysterical patient to complain that her heart is displaced! And this symptom may

annoy her exceedingly. The mal-location may appear to her to be either transient or permanent. Emotional influences "bring her heart into her mouth." She suffers from violent palpitation, and sometimes from abnormal pulsations in different parts of the body. Her general appearance is healthy, her habit is plethoric, and her look belie her sensations. The anæmic murmur is sometimes so distinctly heard by such a patient as to induce the belief that her heart is actually dislocated. As a rule you will perhaps encounter more numerous cases of this kind among healthy, bouncing Irish girls, and the fat, lazy drones of fashionable society than elsewhere. I need not tell you that the complaint has no foundation in fact.

Alleged displacement of the heart.

The hysterical cough is a species of nondescript. Its negative peculiarities are by far the more prominent. Physical exploration will not help you to judge of its cause or significance. None of the symptoms give evidence of irritating matters lodging in the respiratory passages, or of any lesion of the pulmonary organs. The cough is purely sympathetic, reflex in its origin, and serious only through its persistency.

The hysterical cough.

It is likely to be excited and aggravated by the most trivial circumstance, more especially by mental shock and emotional influences. In the case of one of my patients the slightest movement, the opening or closing of a door, however noiselessly, the footstep of an attendant, or the least current of air, no matter if she were sleeping, invariably precipitated a fit of coughing. There was some tenderness over the upper cervical vertebræ. She was cured with a few doses of silicea 6th.

Case.

Your tact will be called into exercise in order to dispel a settled conviction that such patients are consumptive. The same imitative propensity which sometimes causes a number of women to be seized with hysteria in a room where another is in a fit, leads those of an hysterical constitution to simulate a cough which does not depend upon any pectoral lesion whatever, but which may result in harmful consequences unless recognized and properly treated.

Diagnosis — from pectoral disease.

This cough is apt to be harsh, dry, barking, and paroxysmal. It alarms those who hear it more than the patient herself. In

proportion to the frequency and severity of the paroxysm, the affection is sometimes complicated with spasm of the diaphragm, and the singultus annoys the patient while it amuses her. This admixture of symptoms, especially in the early stages of the disorder, causes the proper hysterical symptoms to crop out more prominently. She either laughs, sobs, chokes, or cries immoderately. If the diaphragm is very much affected, there will be more or less orthopnœa. The pulse is but slightly, if at all, accelerated, and the appetite and digestive function are intact. In case of coincident amenorrhœa, there may be vicarious menstruation in the form of hæmoptysis.

Complications and peculiarities.

You would diagnosticate the hysterical from other forms of asthma by its manifest connection with uterine and menstrual disorders. The attack generally precedes the monthly crisis and is relieved by it. The thorax feels tight and restricted. The paroxysm is aggravated by emotional causes, more especially by such as excite the passions and tend to pervert the moral nature. Even during the suffocative fit one may sometimes detect the hysterical fondness for deception. The regularity of the attack — when it returns every month — will confirm the diagnosis.

From asthma.

The hysterical aphonia is not very difficult of diagnosis. Aphonia is never an idiopathic affection. It may arise from laryngitis directly or indirectly, in which case the local and constitutional symptoms would aid you in making out its differential diagnosis from the hysterical aphonia. We may classify the prominent symptoms of the two affections thus:

Hysterical aphonia.

APHONIA FROM LARYNGITIS.	HYSTERICAL APHONIA.
1. Febrile disorder; a quick pulse.	1. Absence of fever; the pulse is normal.
2. The loss of voice is sudden and complete in proportion to the extent and violence of the inflammation. The aphonia disappears slowly, and is prone to become chronic.	2. The aphonia comes and goes abruptly, and without leaving any local lesion or sequel behind it. The relief is sudden and perfect.
3. There is more or less cough and expectoration, which are paroxysmal, and vary in character in different stages of the disease.	3. Cough is a rare concomitant of this form of the complaint. There is no necessary or characteristic expectoration.

APHONIA FROM LARYNGITIS.	HYSTERICAL APHONIA.
4. The inspiration is noisy, harsh and stridulous. At an early period it may be croupal, but later it is less labored and softer.	4. The inspiration is heaving, sighing, and spasmodic, the *râle* being moist and softened in its tone.
5. The dyspnœa is attended by an anxious expression of countenance. She may have fits of suffocation.	5. The features are calm and inexpressive. She is more liable to syncope than to suffocation.
6. There is complaint of angina. The fauces and uvula are congested and inflamed, with tickling, raw or burning sensations, which extend into the larynx and trachea.	6. There is a complete absence of faucial and tracheal inflammation and suffering.
7. Pain referred to the *pomum Adami*. These pains are sticking and lancinating in character.	7. There is no complaint in or about the larynx.
8. The anterior surface of the neck is sore and tender to the touch, and she will not permit one to handle it roughly.	8. Globus hystericus, with clutching at the throat. She tears away the clothing from about the neck.
9. In the acute form the aphonia usually results from taking cold.	9. Never results from this cause unless it has first given rise to some menstrual or uterine disorder upon which the aphonia is secondary.
10. Has no necessary relation to spinal irritation.	10. Is almost invariably preceded or attended by symptoms of spinal irritation, more especially by tenderness upon pressure on some of the cervical and dorsal vertebræ.
11. In the chronic form it may be due to over-fatigue and exercise of the vocal organs or from causes which occasion a low grade of inflammation with hypertrophy or ulceration of the laryngeal mucous membrane.	11. When chronic, it invariably depends upon some uterine or cerebro-spinal lesion.

Diagnosis from apoplectic aphonia.

You should be careful not to confound the hysterical aphonia with the apoplectic. The apoplectic habit, as well as the more decided symptoms of cerebral congestion in a given case, would remove all sources of fallacy in the diagnosis of these two affections. In the hysterical aphonia, in addition to the general uproar of the functions, the result of over excitement, there is an evident hyperæsthesia of the brain and spinal cord. In the apoplectic condition the loss of voice is a tolerably certain and characteristic symptom of congestion of the medulla oblongata. The respiratory ganglia are almost certain to suffer from this engorgement, and the organs to which the pneumo-gastric nerves are distributed, first the larynx, and afterward the heart and lungs, are necessarily implicated in the

resulting disorder, the cause is centric, and the consequences are apt to be disastrous. The hysterical aphonia is always more alarming than serious.

The gastric affections that partake of an hysterical character are almost invariably consequent upon uterine luxations or ulceration, dysmenorrhœa, leucorrhœa, pregnancy, lactation, or spinal irritation. The dyspeptic symptoms are of reflex origin, and differ essentially from those which are present in the more ordinary forms of sub-acute gastritis, gastrodynia, gastralgia, etc. In most cases of obstinate digestive derangement occurring in women during their menstrual life you will observe more or less of the hysterical complication. There is the increased suffering at the month, the fickle character of the pains, the capricious appetite, the exaggerated complaint of suffering, and the alternation of the uterine or spinal with the gastro-intestinal symptoms. I will speak of this subject more particularly at another time.

Gastro-hysterical disorders.

Hysteria is frequently confounded with insanity. But the aberration of the mental faculties in the former affection is almost invariably related to disorders of menstruation, to pregnancy, or to post-partum contingencies. Moreover, as in puerperal mania, it is usually self-limited, and if not mal-treated, is neither severe in degree nor of long duration. In insanity there is evidence of real cerebro-mental disease. The reproductive function is not necessarily implicated, either as cause or effect. The delirium is more lasting. In hysteria the mind is fickle and capricious, the emotions run riot, and, as Sydenham long ago observed, the patient "observes no mean in anything, and is constant only to inconstancy."

Diagnosis of hysteria from insanity.

In insanity there is a manifestation of a strong mental bias. There is usually much depression of spirits, which is the result of a fixed delusion, of which it is impossible to dispossess the mind of the patient. In hysteria a little tact will enable you to recognize a species of cunning shrewdness that is well calculated to deceive. In insanity there is an honest and grave sincerity and earnestness that will withstand any amount of analytical cross-questioning. A woman with the hysterical form of insanity almost invariably dislikes those whom she has hitherto loved the best. and towards whom she sustains the most endearing relation.

She may exhibit a decided aversion to her husband, and would perhaps even destroy her children. Removal from home, more especially if she is not permitted to see her family very frequently, will do much toward effecting a cure of her strange and temporary hallucination. In case of uncomplicated insanity the victim is as prone to suspect and to conceive a dislike for one member of the household as for another.

Hysteria is a paroxysmal disorder, with a great variety of nervous and visceral complications, none of which are, strictly speaking, pathognomonic. Insanity is not regularly paroxysmal, although it may be marked by recurring fits of greater or less duration and severity. If we except paralysis, organic nervous complications are usually lacking in insanity. Both are hereditary disorders, but the predisposition to hysteria is more marked, more easily aroused, and more easily acted upon by exciting causes than in the case of insanity. In exceptional cases they may co-exist.

In a very remarkable series of clinical studies upon this disease, Dr. Chairon has advanced some views of its nature which are peculiar, and which I can merely refer to at the close of my lecture.* He insists that its pathognomonic sign is to be found in a loss of the reflex sensibility of the epiglottis. "Any woman with congestion of one or both ovaries, and having this anæsthesia of the epiglottis, has hysteria. * * * * * * At the Imperial Asylum of Vesinet, my internes and myself have tested this symptom many hundred times and always with the same result. By this sign alone we have often made a diagnosis of hysteria, and some days later the fit, or more serious symptoms, would confirm our opinion."

* Etudes cliniques sur L'Hysterie nature, lésions anatomiques, traitement, par le Dr. E. CHAIRON, etc. Paris, 1870.

LECTURE XLVIII.

HYSTERIA—CONTINUED.

Hysteria complicating child-bed disorders, fevers, peritonitis, and hypochondriasis. *Case.* —Diagnosis from epilepsy, from peritonitis, from labor, and from lesions of the joint. Nature and prognosis. Treatment, the real problem of, mental remedies, imporance of the smallest items in, incompatability between the doctor and the patient, narcotics and antispasmodics, alcohol, proper exercise, domestic occupation and contentment.

The hysterical delirium is in many respects peculiar. It is liable to occur in typhoid, typhus, the eruptive and puerperal fevers, and also in certain menstrual and hepatic disorders.

Hysterical delirium.

In a case either of typhoid or typhus fever, occurring in a young or middle-aged woman, if the delirium persists after the more acute symptoms have subsided, and especially if there is no particular evidence of cerebral lesion, if the paroxysms thereof return at irregular intervals, and result from trivial causes, which in one who was seriously ill would have little effect; if the mind is more than usually fitful and capricious, or if it be inclined to dwell upon a single train of ideas, which have grown out of the most ridiculous fancies; if these vagaries are *outré* and otherwise inexplicable; you will be led to suspect the hysterical complication. And your suspicion would be confirmed by any evidence of malingering on the part of the patient.

She will not look one directly in the face. Her eye is averted, cast down and expressionless, like that of a young man with spermatorrhœa which has been brought on by self-abuse. Or it has a roguish look, and twinkles with evident satisfaction at the alarm and discomfiture of the bystanders, upon whose sympathies she may have been playing as upon a harp. During the fit, in assumed fear of dysphagia, or from a settled determination that nothing shall pass her lips, she may peremptorily refuse to swallow either food or medicine.

The patient's manner.

She is sensitive, impressible, tearful. Her perceptive faculties are intensified. She sees and hears every motion that is made in the house. Nothing escapes her. For her to remain passive is an impossibility. She is under the dominion of an evil genius, which destroys her own peace and that of all concerned.

This form of delirium is likely to be caused or aggravated by the taking of drugs to blunt the sensibilities and to compel the patient to rest and sleep. Any of the narcotics may in exceptional cases produce an opposite effect from that which was intended. Under these circumstances they increase the perturbation and unhinge the nervous sympathies more and more. Even when the patient is easily narcotized, it is doubtless true that the habit of taking such remedies as the bromide of potassium or the hydrate of chloral, in increasing quantities, may finally work serious mischief.

Aggravated by drugs

During the convalescence of fevers, the hysterical delirium may be suddenly developed in consequence of an incidental derangement of the menstrual process. The same is true of a tardy resumption of the ovarian and uterine functions after delivery or prolonged lactation. Until the organic processes have resumed their natural order, and the periodical discharge appears. there is danger, especially after acute disease. of the mental functions becoming temporarily impaired.

Incident to fevers.

The hysterical delirium is often present in child-bed fever, however mild its type. In this case it arises from reflex causes, and we very naturally refer the symptoms to some remote lesion of the soft parts within the pelvis. This delirium varies in its intensity with the quantity and quality of the lochia and of the lacteal secretion, being less marked and persistent if these post-partum products are freely and uninterruptedly poured out. It also varies with the gravity of the uterine lesion. Even in the most aggravated cases of delirium and puerperal mania, it is quite absurd to speak of a metastasis of uterine phlebitis, or of utero-peritoneal inflammation to the brain.

In child-bed fever.

In rare cases the hysterical delirium is complicated with a form of hypochondriasis that results from some chronic hepatic disorder. If uterine lesions are conjoined with an old organic disease of the liver, and the patient has delirium, that delirium is necessarily of serious import. Hepatic abscess may co-exist with uterine displacement, ulceration, or enlargement, and a form of delirium exist which is both hysterical and hypochondriacal. In such a case the danger is increased by the resorption into the blood of at least one of the post-organic elements of the bile, viz.: the cholesterine.

May be complicated with hypochondriasis.

It is less difficult to separate hysteria from hypochondriasis than from the more decided forms of insanity. In hysteria the mental derangement is not always, or indeed usually, of a desponding or gloomy kind. The attack comes on suddenly and without warning; is explosive in its nature. The classes of persons predisposed to the two diseases are of very different habits of thought and temperament. Those most liable to hysteria are the fitful and the frivolous, such as have not taken especial pains in the culture of the reflective faculties. Hysteria is limited almost exclusively to women. A majority of cases of hypochondriasis occur in men. Aristotle observed that "melancholy men are the men of the greatest genius." Hysteria affects the *perceptive*, hypochondriasis the *reflective* faculties of the mind. In the former it is intact and the perceptions are morbidly acute. In the latter the gloomy forebodings, the delusional insanity, impair all the mental processes; the perceptions are misinterpreted, and the judgment is perverted. When hysterical females become hypochondriacal, their thoughts almost always take a religious turn, and the delusion develops into a mild form of theomania.

Diagnosis of hysteria from hypochondriasis.

I was recently consulted in a case of this kind by my friend and former pupil, Dr. C. N. Dorion, of this city, from whom I have the following details concerning his patient:

Case.

Mrs. M——, 25 years of age, was married two years ago, but has no children. Her complexion is sallow, the menses are regular, but, for the last four or five months, rather scanty. The appetite is variable, the bowels are somewhat constipated. She suffers no pain excepting an occasional attack of headache which is not very severe. Her constitution appears to be good. Her face wears a melancholy expression. Her father is subject to fits of hypochondriasis, and one of her sisters has been insane for several months.

Last summer she made a visit to that sister, and spent some days with her in the insane asylum. Since that visit she has been very much afraid of becoming insane herself, and has a mortal dread of dying in a mad-house. She is in terror of being left alone. When her husband leaves home in the morning, she feels sure that she will never see him again. Her mind runs constantly upon religious topics, and she will sit and sing hymns for hours together. She has lost all interest in domestic affairs, and the outside world is a complete blank to her.

When lying down she fancies that it will be quite impossible for her ever to rise again, or to walk if she were upon her feet. She thinks and says that she is too weak to do anything. Occasionally there are nervous shiverings, globus hystericus, cold extremities, and, at rare intervals, an intermittent pulse. The tongue is coated white, but there is no febrile action. She broods over her certain death, her possible insanity, her sins always. When one succeeds in diverting her attention temporarily, she is apparently quite well and says that she is no longer sick. But in a short time she lapses again into the same pitiable state of mind as before. She insists that for weeks past she has not been able to sleep, even for a single hour.

The hysterical form of peritonitis.

Among the hysterical contingencies and sequelæ of labor none are more embarrassing than those which simulate puerperal peritonitis. Post-partum hysteria is sometimes very difficult of recognition. We most naturally look for it in those who in the unimpregnated state have been subject to mental unsteadiness, and who through original or acquired predisposition are considered to be "nervous." The changes incident to gestation frequently have the effect to fortify against an hysterical outbreak until "term" has arrived. But either during or subsequent to delivery the old habit is revived, and symptoms of hysteria may crop out again.

Differential diagnosis of.

In this spurious form of peritonitis the attack comes on abruptly and without any obvious cause. It may even be entirely emotional in its origin. Everything may be natural with the lying-in woman when a slight mental shock has the effect to make her alarmingly ill. There is local pain and tenderness over the abdomen. She can not bear slight pressure, the weight of the bed clothing is unsupportable, the lower extremities are sometimes but not always flexed, the abdomen is tympanitic, the urine is either scanty or suppressed. The skin is neither unnaturally hot nor cool. She has no decided chill, but may have rigors. The pulse is nearly or quite natural. If at all changed it will usually be found slower than at your last visit. The delirium is hysterical. If, for example, you attempt to administer a remedy in the form of a little powder, she will seize it and tear the paper to pieces in a twinkling. And this most deliberately and defiantly, perhaps. She clenches her teeth, closes her lips, thrusts her face into the pillow, tosses about from

side to side, or persists in sitting up, even although she may be so sleepy as scarcely to be able to keep her eyes open.

Now, in genuine child-bed fever, although there is no pathognomonic lesion, any more than in surgical fever, to which it is closely allied, the symptoms differ essentially from those which I have just enumerated. If there is perimetritis, endometritis, peritonitis (ovarian or abdominal), or metro-phlebitis, the usual constitutional signs of local inflammation will be present.

Thus, in true puerperal peritonitis, we shall have a characteristic frequency of the pulse, which continues despite a copious diuresis or diaphoresis; a decided chill at the onset of the attack, as in inflammation of serous membranes elsewhere; severe frontal headache; a suppression of the milk and of the lochia; excessive abdominal distension and tenderness, which latter is greatly increased by extending the limbs or allowing the clothing to fall upon the tumor; and a hippocratic expression of the countenance. In the worst cases the period of collapse sets in early, and the patient may die in a very few days, or she may linger for a week or more.

In private practice puerperal peritonitis is a rare affection. Probably not one-half the cases of this disease that are reported in our medical societies and journals deserve to be classed as such. The clinical history of such cases proves many of them to have been spurious, self-limited, incidental, hysterical. Any remedy capable of controlling the nervous symptoms, which are contingent upon labor, is very likely to get the credit of aborting a genuine attack of peritonitis. The same is true of the hysterical side-ache which resembles pleurisy and is so often mistaken for it; and also of the hysterical pains which sometimes counterfeit rheumatism so closely. When you hear a physician say that he has often succeeded in curing any one of these diseases — peritonitis, pleurisy or rheumatism, in a few hours with this or that remedy, you may safely conclude that his clinical observations have not been very accurate, and that he is claiming too much for his skill.

A suggestive item.

There is a singular and significant relation between abdominal tympanites and the mental derangements, more particularly the forms of delirium, to which hysterical women are liable. It frequently happens that the degree of abdominal distension is

a measure of the temporary disorder of the brain. Whether this tumefaction of the abdomen, and sometimes of the hypogastrium also, is to be regarded in the light of cause or effect, authorities are not agreed. It is incident to difficult and delayed menstruation, to the puerperal state, to abortion, to uterine displacements, and to the various forms of sexual irritation from whatever cause. It is sometimes brought on by mental shock or emotional influences of different kinds, as fear, anger, grief or disappointment. You will find in these cases that the abdomen is excessively tender to a slight touch, but not to steady and continued pressure. This distension may come on very quickly and disappear as suddenly, without being accompanied or followed by any local inflammation. I have known it to be caused by drinking a glass of ice-water, or eating a dish of ice-cream, during menstruation. In a few minutes after taking the latter the abdomen was found to be enormously swollen and the patient delirious. Similar states of the mind are incident to the tympanites intestinalis of puerperal and typhoid fevers. But, in many cases of hysterical tympanites, which are really due to derangement of function in the solar plexus and semilunar ganglion chiefly, you will observe that continued pressure upon the stomach and abdomen, when the patient's attention is diverted, will not only arrest the unnatural secretion of gas, but will cause both the swelling and the delirium to subside. This is sometimes quite diagnostic.

Abdominal tympanites and delirium.

Hysteria may simulate natural labor. A marked case of this kind is reported by Dr. Hodges.*

Hysteria may counterfeit labor.

"I was engaged to attend a married woman in her confinement for the first time, then believed by herself and friends to be about five months advanced in pregnancy. Time went on — the usual preparations were made — the nurse secured, the patient happy in the thought of becoming a mother, and pleased with the sympathy elicited from the neighbors in relation to the approaching event. In four months after the first intimation I received, I was requested, at about ten o'clock at night, to visit her, and to do so with as little delay as possible, for she had been ill all day, and was reported to be getting rapidly worse. On arriving, the pains were very severe, and of the kind attending the last stage of labor. I was pleased to hear from the nurse that the pains had been very regular all the day.

Case.

* Trans. of the Obstetrical Society of London, Vol. I, p. 339.

gradually increasing in frequency and intensity, for the hope of a night's rest was before me. They certainly were most severe and forcing, and succeeded each other so rapidly as to give the impression that the process would soon be completed, and the first casual vaginal examination conveyed to my mind the same idea, for I detected a *soft*, *fluctuating* tumor, filling the vagina, and which, during pain, distended and protruded it through the os externum, precisely as in natural labor when the membranes protrude. I made no observation to those around me, for the pains were so urgent and forcing that I believed the labor would be over in a minute or two; but their continued severity brought no advancement—no alteration. I then examined carefully into the cause of this apparent delay, and found that the tumor was a vaginal cystocele, or prolapse of the anterior parietes of the vagina, caused by an enormously distended bladder. The finger was with difficulty passed up behind this swelling, where the uterus was discovered with its mouth closed and of the unimpregnated size. The patient and attendants were then informed that, not only were these pains spurious, or false, or hysterical, * * * but that the patient herself was not even pregnant, which fact astonished them still more, and amused them for many a day. * * * The patient before marriage was subject to frequent attacks of hysteria, and about one year previous to this event was present at a relative's accouchement, where the pains were severe and the labor protracted."

Diagnosis of hysteria from epilepsy.

Hysteria and epilepsy are frequently confounded by those who pay too little attention to diagnosis. The points of difference between them concern the coming on of the paroxysm, the symptoms during the fit, and those which immediately follow it. In epilepsy there is usually some premonition of the spasm; the patient may fall to the floor, or the fit may come on immediately upon awaking out of sleep; the *aura epileptica* is more or less pronounced; the attack is not strictly referable to an emotional cause, but is apt to be periodical, occurring once in so many hours or days; it has no necessary relation to menstrual disorders, to the return of the month, or to enfeebled conditions of system consequent upon gestation or lactation. The hysterical fit follows some mental shock or strain; comes on gradually, usually with more or less of gastric disturbance and distress, choking, suffocation, globus hystericus, twitching and convulsive movements of the eyeballs and the eyelids; is very apt to follow in consequence of loss of sleep; and if

at all periodical, it is more likely to recur at the month as a contingent of menstruation. In certain cases pregnancy and lactation may predispose to it most decidedly.

In the epileptic fit there is a sudden and total loss of consciousness. The face becomes livid and distorted; a frothy saliva flows from the mouth, and there is grinding of the teeth and biting of the tongue. The patient is entirely oblivious to all that is passing. The convulsive movements affect the muscles of the face, neck, throat, chest and extremities. The larynx is spasmodically closed, and hence the discoloration of the skin, and the temporary arrest of breathing. When the spasms reach the muscles of the extremities, those on one side of the body are apt to be more decidedly affected than those on the other. These spasms are more tonic than clonic. The movements of the patient are entirely involuntary.

In the hysterical paroxysm, if the patient becomes comatose (which is exceptional), this condition comes on very gradually and may not be complete until at the close of the fit. The face may be flushed, but it is not dusky or livid in hue; she does not foam at the mouth; as there are no convulsive movements of the lower jaw, the tongue is not apt to be bitten; and, what is quite distinctive, she displays something of volition in all her movements, and evidently "keeps the run" of what is going on around her. She sighs, or laughs, or sobs, or perhaps talks as if dreaming. The muscles of the face are seldom convulsed; the face itself is not disfigured; the larynx, which is the gateway of the respiratory system, remains open; and the movements of the extremities are always *partly* under control of the will.

The epileptic paroxysm is generally of short duration and passes off with profound sleep, from which the patient awakens without the remotest idea of what has passed since the onset of the attack. Whether sleep follows the fit or not, there is considerable dullness and hebetude of mind which may continue for hours or days, and which finally, if the fits recur very often, impair the intellect and render the patient a complete wreck.

The hysterical coma may become more profound and the patient may sleep toward the close of the paroxysm, but the rule is that the fit passes off with an ebullition of emotional feeling. She may either weep or laugh immoderately. Or she may sigh and

groan and sob, and all this without any real mental anguish to correspond with these demonstrations. Her emotions run riot, and are sometimes most grotesquely jumbled together. She may know more of what has passed since the commencement of the attack than the bystanders themselves, and the only perceptible effect of a repetition of these paroxysms seems to be so to shatter her nervous system as to make her more and more susceptible to them. In many cases the fit terminates with a copious flow of pale, limpid urine.

Hysteria or "spinal irritation."

You will hardly fail to be consulted for the relief of certain hysterico-neuralgic affections of the spine. These affections are very distressing because of their chronic nature, their proneness to seize upon some of the most intelligent, gifted and amiable women in society, and because it almost always happens that before you are applied to, they will have done the very thing, and resorted to the very means best fitted to fasten the disease upon them. In these patients some portion of the spine — it may be a spot over the spinous process of a single vertebra, or perhaps the whole length of the column — becomes exquisitely sensitive to the touch. The pain may be sharp or dull, radiating, shooting, shifting, transient or permanent, and is very apt to be increased by over-fatigue of body or mind, vicissitudes of weather, as of cold and damp, strong mental emotions, sleeplessness, obstinate constipation, and the return of the menstrual crisis. It renders walking impossible in many cases, and may even interfere with riding also. The incidental symptoms vary with the seat of the local pain, but are not as serious as you would be led to infer. Indeed, the exaggerated character of the complaints that are made will prevent your confounding this with caries of the vertebræ, or with myelitis or spinal meningitis. The predisposition to this disease is the hysterical diathesis; the exciting cause may generally be found in some derangement of the menstrual function upon which the "spinal irritation" is secondary. Such patients sometimes suffer extremely from neuralgia in various parts of the body. Exercise gives them so much pain and unrest that they soon desist from taking it, and finally become bed-ridden and wretched.

Sometimes this peculiar disease locates itself in one of the larger joints, particularly in the hip or the knee. Dr. Simpson reports a

case in which the pain was seated in the head of the right radius.

Hysterical affections of the joints.

The knee-joint is most frequently affected. There is the greatest dread of motion of the affected part, and the pain is said to be excruciating in degree, much more, indeed, than in case of real ulceration of the cartilages. This affection, which is comparatively frequent, was first described by Sir Benjamin Brodie, who says, concerning its diagnosis, that "There is always exceeding tenderness, connected with which, however, we may observe the remarkable circumstance, that gently touching or pinching the integuments in such a way as that the pressure can not affect the deep-seated parts, will often be productive of much more pain than the handling of the limb in a rude and careless way." A good plan is to divert the patient's attention from herself while you are manipulating the affected part, by which means you will find it possible to move the joint with little comparative complaint from her. If she insists that the limb can not be moved or straightened voluntarily, you may resort to anæsthesia by ether or chloroform as a means of making a more careful diagnosis; for it is really very important to decide in these cases whether the disease is or is not hysterical. It has frequently happened that women have been kept in bed, in the horizontal posture, for weeks and months, and even for years, when there was no actual disease of the joint itself. Indeed they have often gone through the martyrdom of blistering, cupping, leeching, salivation, and finally of amputation, for the cure of this reflex disorder.

Diagnosis of.

If you remember the distinctive characteristics of hysteria that have already been enumerated, you will be spared the commission of such blunders, and your patients saved from the prolonged suffering which, as a rule, may be easily remedied.

In the unmarried, and sometimes in women who are married but who have not borne children, vaginismus is an attendant upon hysteria. In exceptional cases the hysterical disorder appears under the form of nymphomania. Numerous instances are recorded in which ovariotomy has been attempted, when on opening the cavity of the abdomen the tumor has proved to be an hysterical phantom.

Other incidental diseases.

Nature. — But it must suffice to say that hysteria is rather a

condition than a disease *per se*. This condition appears to consist in a peculiar irritability and impressibility of the nervous system, which is so modified by disorders of the sexual apparatus as to cause it to differ from every other kind of nervous derangement. This morbid irritability should be regarded in the light of a peculiar diathesis, upon which, as we have seen, almost any disease may be engrafted. Roberton says very explicitly :* "We have reason to believe that there is *as absolutely* an hysteric constitution, or congenital predisposition to hysteria, as that there is a scrofulous constitution, or congenital predisposition to scrofula; and consequently that none are liable to hysteria but only such as possess this constitution.

Hysteria not a *bona fide* disease.

"The hysteric condition is characterized by irritability, *sui generis*, of the nervous system as a whole, or sometimes more particularly as connected with certain organs; and although this condition can not probably be *originated* in the individual by modes of living, and other external circumstances, it may be aggravated by them."

In what this hysterical predisposition really consists we do not know. How it is that it reverses the finer traits and characteristics of womanhood, whether temporarily or permanently, it is impossible to comprehend. That such are among its effects is a thing of every-day observation. It is at the bottom of half the disease and the unhappiness of the sex. It may turn the wife against her husband, the sister against her brother, the daughter against her father, the mother against her child, and friend against friend the world over. Its strange characters may be traced upon every page of human history. In the affairs of church and of state, in medicine and morals, in society at large and in the sick-chamber, its influence is certain to be felt. It does not destroy life directly, but indirectly it has slain its thousands. In brief, it is the most mischievous and the most enigmatical and elusive of all those elements which enter into the formation of "poor, weak, human nature."

Its real nature is unknown.

Prognosis. — Uncomplicated hysteria is not a fatal disorder. It may, however, serve to conceal the graver symptoms of disease

*Essays and Notes on the Physiology and Diseases of Women. London, 1851. p. 237.

under cover of such as are not serious, and in this manner tends to destroy life by causing the real lesion to be overlooked. Let me illustrate: A delicate, nervous woman is seized with a sharp attack of pleuro-pneumonia. In the emergency of her sudden illness an officious neighbor is called in. This impromptu nurse has a voice and manner that serve only to excite the patient more and more, and, despite her bundle of expedients, some of which, if properly applied, might have been efficacious, the symptoms are aggravated. The reflex effect of that woman's presence and performances upon the sensibilities of such a subject is so to shock and derange them, that it may be quite impossible for the doctor when he arrives, to discriminate properly between the symptoms that are presented. He can not tell which of them are genuine and which are spurious, for the former are masked, while the latter are lashed into undue prominence. All the symptoms that are chargeable to the nurse's lack of tact, to her incompatibility and to surrounding circumstances generally, rather than to internal conditions of the patient's organism, will be likely to deceive and mislead the physician. Vesical or rectal tenesmus, globus or clavus hystericus, fugitive and excruciating local pains and spasms, a temporary diabetes insipidus, aphonia, hysterical vomiting, amenorrhœa, or a host of other irrelevant symptoms, not one of which has any characteristic relation to the original disease, are so magnified, and stand out so clearly and prominently, as to divert his mind into the wrong channel.

Illustration.

Under these circumstances, and especially if he is inexperienced, the physician may feel himself called to prognosticate a fatal issue. Taking the wrong cue, adding to the alarm instead of arresting it, and causing matters to become worse in compound ratio — for doctors are either helpful or harmful — the patient may finally die, not indeed of hysteria, but of the pneumonia which has been permitted to run its course without interruption, because it has been overlooked.

Or, if the physician in charge has had sufficient experience, and has tact enough to enable him to recognize the hysterical outgrowth in such a case, but is withal very much occupied, and weary with this class of patients especially, he may hastily conclude that she has a fit of hysteria and prescribe accordingly.

Meanwhile the real disease is making rapid progress, and before his next visit it may have become incurable.

Now it is this deceptive exaggeration that is likely to mislead, and to cause us to misjudge, to overrate, or to underrate the danger in cases of hysteria complicated with other forms of disease. Some of the verbal and objective signs are untruthful. They introduce the lying element into the record, and hence the difficulty in detecting them and in assigning their proper diagnostic and prognostic value.

Treatment.— Before we proceed to the special therapeutics of this affection, there are some considerations which demand our notice, and which are essential to its proper and successful treatment.

General remarks.

This disorder being chiefly emotional in its origin, and indeed in its very nature, it is vitally important to obtain such an influence over the mind of the patient as will serve in a measure to control the symptoms, or at least to place her in a state in which our remedies will act more promptly and efficiently. There can be no doubt that very many cases of hysteria, in some of its protean forms, have been unwittingly cured by means that were suited to occupy, divert, overwhelm, or control the emotional faculties. Such expedients are to be regarded only as auxiliaries to proper treatment, but as such they are so useful, and sometimes so necessary, that they should not be overlooked. For it has often happened that the manner and bearing of the nurse, or of some kind-hearted neighbor who has been called in, has done a thousand times more to cure these patients than the physician's prescription. The intangible, but no less potent influences of fear, faith, hope, confidence, will, reason, diversion, management, occupation of the mind, argument, concession, opposition, sympathy, indulgence of caprice, helping her to bear her burdens — whether real or imaginary — change of diet, air and scenery, are sometimes indispensable. And unless we can use them appropriately, or the patient shall happen to be accidentally brought under their influence, the best chosen remedies will utterly fail of effect.

Mental remedies.

Herein lies the difficulty in controlling and curing the various forms of hysteria. The most inexperienced among you might match a great many of the symptoms mechanically, and prescribe

for them secundum artem. But, unless you are able to recognize which of them are genuine and which are not; unless you can separate the real from the spurious; unless you can refer those which are hysterical to their proper source, and succeed in reducing the emotional disturbance of the patient to order, you will fail to cure this disease.

The real problem.

Now, there are many ways of accomplishing this object. You know that hysterical patients are eccentric. For this reason it requires a large measure of tact (which can only be acquired through observation and experience) to manage them properly, and to cure them most certainly and promptly. I can no more tell you what to do in each particular case of hysteria than I could define the odor of small-pox or of measles. But it is possible to give you some general directions that shall be useful.

In the first place, if you desire to be most successful in treating this class of diseases, you should maintain your distinctive character as physicians. For there is a species of mutual reserve and respect which should separate the physician from his patients, and which invest him with a peculiar influence over them. If this is properly maintained, it need not subtract from the social character and position upon which so much of his general reputation depends. But it will give him an immense advantage in the management of every kind of hysterical disorder, to which so many of his lady patients are subject.

Something depends upon the doctor's habits.

Nor is a highly-wrought, delicate, impressible, nervous woman likely to be benefited by the advice of a physician whose personal habits and manners are repulsive to her, and whom she is compelled to tolerate rather than esteem. In this, as in other matters, trifles have great weight. I have known a brother practitioner, who was skillful and competent, to be discharged by such a patient for the reason that "he never wore a decent cravat." His slovenly habit more than counterbalanced the effect of his remedies, and, while he continued to visit her, his patient grew worse instead of better. The good influence of one physician may be crippled by his loquacity, another is too taciturn; a third asks too many, and a fourth too few questions of the patient; one brings too full a budget of news from a neighbor; another is eternally canvassing

Also his personal address, etc.

for his school of medical practice, his church, his club, or his political party; one is too cross, while it is alleged that another is "altogether too kind."

This is but a scanty list of personalities, any one of which may serve, in this class of diseases especially, to neutralize the curative effect of his remedies. You are not to suppose that they are insignificant merely because they are not alluded to in your text-books. Whatever can by any possibility constitute an obstacle to recovery is important and worthy of your attention. Fortunately most of these vexations are avoidable. You will not all excel in obtaining the confidence of your patients, and in bringing them into that passive state in which they can be most readily cured. But each of you can by education acquire such a measure of tact and of adaptation to caprice and circumstance as will multiply your resources and render you many times more useful to them.

The smallest items not always trivial.

I am so confident that a lack of sympathy, a dearth of feeling, a real incompatibility of temper and taste between the physician and his hysterical patient may cause his treatment to result in more of harm than of good, that, in case this obstacle can not be otherwise removed, I think it better to withdraw and to let another physician be called. Indeed, I have sometimes voluntarily discharged myself, after having frankly told the patient and her family that, for some unknown reason, my remedies had failed to cure her; and that, in my judgment, such a change was what she most needed. Under similar circumstances we would not hesitate to discharge the nurse whose every movement was annoying to the patient and antagonistic to her comfort and welfare. And I do not know why the same rule should not also apply to the doctor. If a new face and a new method of prescription will work the desired change in her feelings and her symptoms, by all means let them be tried. For these things can operate through the emotions, and may entirely supersede the necessity for remedies of whatever kind. And by following this rule, although you lose the credit of curing one such patient, you will gain the reputation of saving another; for, when the wheel turns around, your face and your manner may be the

Incompatibility between physician and patient.

How to remedy it.

one thing needful in a similar case which your professional neighbor has failed to relieve.

In lieu of controlling the emotional outbreaks and suffering in hysteria, by the personal tact, character and magnetism of which I have spoken, these subjects are often brought under the quieting influence of narcotics and anti-spasmodics of various kinds. But such medicines are mischievous, and should be given under protest and exceptionally, or rather not at all. One reason why there are so many nervous women in our day is, that the habit of taking such drugs is almost universal. And every few months a new one is added to the list. Thousands of women, who should be well and healthy, are just now under the slavish dominion of the hydrate of chloral and the bromide of potassium. The taking of these substances habitually begets a predisposition to nervous disorders which grows apace. So that if there were no other reason for withholding them from our prescriptions, we should not give them freely and indiscriminately, lest the habit be formed in consequence.

Narcotics and Anti-spasmodics.

Objections to.

There are, however, exceptional cases in which this means of temporary relief can not be rationally excluded. When from excess of pain, fatigue, or excitement, it is absolutely impossible otherwise to procure the needful rest, they are perhaps permissible. But these are exceptional cases in which we must choose between two evils. It may be better to compel sleep, to overwhelm the nervous centers, and to run the risk of the secondary consequences of such an expedient, rather than let the patient wear herself out with unrest, extreme pain, or protracted insomnia.

Sometimes permissible.

Concerning the propriety and advisability of alcoholic stimulation in the weakened conditions of the nervous system, which predispose to, and attend upon hysterical disorders, physicians are not agreed. One class, of which Dr. Skey is the modern representative,* considers them indispensable, and insists that they should be given freely and promiscuously. On the contrary, what might be called the denunciatory school is equally positive that in all forms alcohol is always injurious.

Alcoholic stimulation.

* Skey on Hysteria. A. Simpson & Co., N. Y., 1867.

This involves a question which can not be settled for you in the lecture-room. If you are satisfied that these agents can be utilized in correcting the mal-nutrition and depraved vitality from which this class of patients often suffers preëminently, it will be your duty to prescribe their sparing and transient use. If you need to husband the vital resources of one who is exceedingly weak, and almost bankrupt in strength, and are satisfied that alcohol, or tea, or coffee will diminish disassimilation, and prove a veritable "savings bank to the tissues," as Moleschott so quaintly terms it, you should not withhold them.

Folly of dogmatizing.

Under certain circumstances it may be quite as necessary to furnish a rapidly oxydizable material to the organism, as in other conditions it is to supply oxygen itself. I might insist that wine, brandy or whiskey have never been of the least service in any case of hysteria. But that would not alter the facts. Individual observation is too limited to justify such assertions. Indeed, these arbitrary rules have very little to recommend them. I have known weak, nervous, delicate women to be disabled and bed-ridden for months and years because their physician obstinately denied them the little stimulus which they craved, and the temporary use of which would have set them upon their feet again, without doing any possible harm.

Qualified use of stimulants.

So far as my own experience extends, I have found it best to discriminate carefully, and to prescribe one or another of the different preparations of alcohol only when I could not do better, and when there was no especial danger of reviving an old habit, or of forming a new one which would result in intemperance. There is an essential difference between giving wine or brandy to the extent of complete narcotism, or endorsing its persistent use until one's patient is in a state of chronic alcoholism, and the judicious and temporary employment of it as an available stimulus in an emergency. And let me tell you that there is not one-hundreth part the danger of our making drunkards of women that there is of making topers of men.

Proper exercise.

The exercise should be regulated most carefully. Many women become fatigued almost beyond measure who, strictly speaking, take little or no exercise. With the majority of these persons the fault is not that their time is not occupied, but that they lack the stimulus and benefit of

variety of occupation. Their house-life is a species of tread-mill round of work and worry, with little or no change whatever. What this class needs is diversion, a combination of mental and physical exercise that shall keep all their faculties in healthful play. If a woman wears out her nervous energies in household drudgery, you must prescribe a change of habit, and season her cares with a little of the spice of the outside world. Fresh air and sunlight, society, travel, music, literature, or an additional servant may be useful ingredients in your prescription.

Hysteria among the "better classes."

Among what are called the "better classes," with whom life is a listless, perpetual holiday, a predisposition to hysteria is frequently nurtured or acquired. With many women the seeds of this disorder have been sown in boarding-school. Boarding-house life and hotel life, in America, are nurseries of hysteria. This kind of life subjects its victims, who are without proper and constant employment of their time, to vicissitudes of excitement, and of personal experience that are inimical to health. The nervous systems of these women suffer most severely. Their life is an aimless, artificial one, with a large margin of leisure which is apt to be wrongly appropriated. It is almost impossible for a gifted and attractive young or middle-aged lady to escape the perils of such a home, if indeed it deserves the name.

Domestic occupation.

And, since it will not always be possible for you to locate these patients just as you could wish, any more than to mate them properly, you will be forced to counteract such influences in the most practicable manner. If they have the means and the disposition, persuade them, if possible, to settle in homes of their own, where proper domestic cares may occupy a share of their time and attention. Thousands of women would be cured of the hysterical tendency if they were blessed with comfortable homes, and removed permanently from the corrupting influences to which they are otherwise subjected. It is sometimes absolutely essential to remove them from a house in which everybody knows everybody's business, and in which no woman has any business. You can also accomplish a great deal by the exercise of a little tact in keeping these patients busy with something useful, instructive and profitable. One may perhaps become interested in a course of reading which you

shall map out for her. Another might be made to forget her complaints if she were to resume her music, her French, or her German; or to participate in one or another of the charitable objects and missions, in which some of the best women of our day are so much engrossed. One should see more of society, and another less. All need some kind of diversion, some mental occupation, some change which shall divert their thoughts from themselves, and especially from a morbid stimulation and gratification of the sexual appetite.

Cultivation of proper mental habits.

You will sometimes have to counteract such domestic infelicities as, by the constant fret and friction which they induce, serve to keep those who are predisposed to hysteria, always on the sick list. This woman may be cured by getting her out of sight of her own servants; and that one, if she can escape the neighborhood in which she is certain to see or hear something of others, men or women, against whom she has conceived an inveterate dislike.

Remove domestic infelicities.

The hysterical irritability is very apt to accompany, or to be engrafted upon a jealous and unhappy disposition. It certainly is much easier to prescribe than to furnish contentment to such persons, but example and precept will accomplish wonders, even although, like the third party who attempts to make peace between man and wife, we sometimes incur considerable risk in giving our advice. In all this you will be compelled to take a leading character in the old play of Tact *versus* Talent. And I am anxious that you shall not appear upon the stage of practical life as physicians without ever having had a rehearsal. For, in the cure of hysteria especially, the largest share of the work to be done may depend upon these common-place matters.

Contentment.

LECTURE XLIX.

TREATMENT OF HYSTERIA.—CONCLUDED.

Treatment during the fit. Do. for the hysterical diathesis; do. for the accompanying lesions and complications. *Case.*—The utero-gastric and cardiac disorders. *Case.*—*Hysterical hemiplegia.* The hysterical mimicry. Treatment.

From the time of the Greek midwives, who, according to Galen, were the first to employ the word Hysteria, its treatment has been divided into that proper for the paroxysm and that for the interval.

When you are called to relieve a woman who is in "a fit of hysterics," you must know what to do. First, you should be self-possessed, and not in a flutter. Allow nothing to surprise you. Be cool and collected. Look upon the most startling developments as matters of course. Do not give a hasty opinion as to the result. Qualify your prognosis, and above all things do not be in a gloomy, despondent state of mind yourself. Have the patient placed in a comfortable position upon the bed or sofa. Let the head be slightly raised, and if need be, held by an assistant. Have the forehead and face bathed with cool or cold water, or cold compresses laid across the forehead and temples. Let her have a plentiful supply of fresh air. If it blows from the window directly into her face, so much the better; or she may be fanned by the nurse. All ligatures in the form of corsets and garters, etc., should be removed. The dress should be thrown open at the throat especially, and only enough force applied to keep her from inflicting bodily injury upon herself and others.

Treatment during the fit.

The usual restoratives consist in allowing her to smell of ordinary spirits of camphor, ammonia, musk, cologne water, chloroform, ether, alcohol, vinegar, the fumes of a burning feather, or of a lighted match. Sinapisms and the warm foot or sitz-bath, vigorous rubbing by a strong, healthy person, dashing cold water upon the head or spine, the application of heat, electricity, and the use of brandy, coffee, cam-

Available expedients.

phor, sulphuric ether, ice water, or a solution of some salt of valerian by injection into the rectum, are among the available expedients, which may be tried before the patient is able to swallow. Sometimes the paroxysm will be relieved almost immediately by firm pressure upon the hypogastrium. More frequently it will pass away insensibly under the influence of delicate attention and quiet, and proper sympathy which tend to soothe and calm the excited feelings. Or it may terminate by your sending out of the room some person who is well enough disposed, but who is especially obnoxious to the patient.

Precaution—Tact.

If the fit has been induced by anger, or some fancied slight, or disappointment, or by mental anxiety or grief, no allusion to the cause or to the possible consequences of the attack should be permitted within hearing of the patient. Indeed, the greatest care should be taken to turn the current of conversation, if there is any in the room, into quite another channel, else it may prolong the disorder. Whatever is said should be calculated to divert her attention from herself, and thus indirectly to restore the will to its supremacy over the emotions, for when the will of the patient is in league with the emotions it adds fuel to the flame to persist in telling her how very ill she is. The better plan is to speak of something quite foreign to her present condition and surroundings, and to try to interest those who are present in the subject matter of conversation. This will be a mild means of counter-irritation, or diversion, which will serve to benefit the patient, who is unwittingly being toned down by your tact.

Don't scold.

It is the habit of some physicians to scold such a patient, or to declare contemptuously that she has "nothing but hysterics," and to refuse to do anything for her. This is positively and unprofessionally cruel, for, while it lasts, the suffering is as real as in any other disease, and the patient as deserving of sympathy and relief. Doctors are servants. And whether you are sent for in the middle of the night, or while at church, or at a social party, to visit an hysterical patient, you should carry with you as large a measure of good-nature as if you were going to a case of puerperal peritonitis, or of some other serious disease.

Most frequently, however, the paroxysm will have ended before

your arrival. If she remains obstinately silent and refuses to answer your questions, give her the medicine, and wait until she gets ready to speak. This let-alone species of indifference on your part will hasten the crisis, and after a fit of weeping, she will be communicative enough.

For her taciturnity.

Concerning the treatment between the paroxysms, I wish in the first place to insist that you shall not be misled by the incidental and irrelevant symptoms which are so common in all forms of hysteria. I have often thought that if it were possible to treat our hysterical patients just as we are compelled to treat infants when they are ill, that is, without regard to their subjective sensations, the special treatment of this disease would be greatly simplified and much more successful. For it is the peculiar rendering, the exaggerated estimate, the misinterpretation of the sufferings experienced, that will sometimes lead you to wish that such a patient was as mute as a child that is only a month old.

Treatment in the interval.

I know that it is very difficult to discard worthless symptoms without at the same time eliminating some which are really valuable and important, and yet, I tell you frankly that, in my judgment, a majority of the symptoms, more especially those derived from the tongue of an hysterical patient, are of no practical significance whatever. You cannot depend upon them. They are compounded of shrewdness, cunning, trickery, deceit, a morbid imagination, real suffering, and reflex irritions of all kinds, which confuse and confound us at every turn. One of my medical friends says that a hysterical patient is "a pathological kaleidoscope." It is so absolutely impossible to prescribe for the totality of the symptoms that, in many cases of hysteria, you will be compelled to abandon the idea; for when they change like the hues of the chameleon, and are as irreconcilable, incompatible, and contradictory, as they often are, you would need as many remedies as there are single, individual symptoms, and these might have to be changed several times daily.

Necessity for caution in the exclusion of symptoms.

May be too kaleidoscopic to be covered by any single remedy.

As a prospective improvement upon the ordinary unsatisfactory and unsuccessful method of combating hysterical symptoms, let me counsel you to direct your treatment, 1st, *Against the hysteri-*

cal diathesis, and 2d, *Against the symptoms which properly belong to the lesion, of which the hysterical attack is either the consequence or the concomitant.* Physicians recognize the practical significance of the rheumatic, the gouty, the tuberculous, and the syphilitic diatheses. In the treatment of almost every variety of disease of which their existence can possibly complicate or modify the symptoms, they receive due consideration when we make our prescriptions. The hysterical predisposition is equally pronounced and equally deserving of attention. Its treatment is more decidedly hygienic and prophylactic, than medicinal. It prescribes the removal, if possible, of all the causes which might originate or perpetuate this disorder. It regulates the mental and physical exercise of the patient, her habits of eating and sleeping, her social and domestic life, and everything, in short, which can influence the functional operations of her nervous system. It places particular stress upon these matters in her case because of her constitutional bias towards hysteria. It recognizes that health cannot be restored unless the proper physiological conditions for its restoration and maintenance are supplied.

General rules.

For the *hysterical diathesis.*

A knowledge of this diathesis will sometimes aid in the selection of our remedies. The relations of belladonna, ignatia, caulophyllin, agaricus, hyoscyamus, lilium tig., gelseminum, ether, moschus and valerian to this peculiar predisposition are well known to the profession. They are sometimes given with excellent effect as hysterical prophylactics, and may finally eradicate the disease altogether. As intercurrent remedies they may be equally useful. The choice between them will depend upon a few "characteristic," objective, cardinal symptoms.

Remedies to counteract it.

The diseases of the generative system are the most usual concomitants of hysteria. Disorders of menstruation underlie a large proportion of the cases of this disease. Dysmenorrhœa, amenorrhœa, too scanty, too copious, irregular and too frequent menstruation may need to be cured before the symptoms of hysteria will disappear. For each of these affections you should therefore prescribe as carefully as possible, taking only such note of the hysterical outgrowth as will enable you to counteract the predisposition of which I have

Coincident menstrual disorders.

spoken. The chief thing is to cure the menstrual irregularity, after which the contingent symptoms will disappear of themselves. Remove the cause and the effect will cease. Cure the idiopathic lesion, and the sympathetic, nervous, accidental symptoms will vanish.

This method of procedure will enable you to discriminate between the legitimate symptoms, which are reliable, and those which are not. It will not, however, do away with the necessity for close and careful study of those symptoms, and a proper adaptation of the remedy to the cure of the menstrual difficulty. You will proceed to remedy that disorder, whatever it may be, with little or no regard to the hysterical phenomena, however noisy and clamorous they are.

The careful study of the legitimate symptoms.

The same rule applies to organic disease of the ovaries, and of the uterus, to uterine displacements and ulceration, to hypertrophy and neoplasms of the womb, to leucorrhœa, abortion and its consequences, to vesical and rectal irritation, inflammation and ulceration, which so frequently exist in connection with hysteria. The symptoms that properly belong to these several affections are those which are most significant, and which will afford the real indications for the cure of the case. There is no objection to an intercurrent remedy for the relief and removal of a contingent delirium, globus or clavus hystericus, the hysterical stitch in the side, or the infra-mammary pain; but your chief concern will be to recognize and cure the lesion from which so many of the symptoms are proliferated, but upon which they are in a sense supernumerary.

Coincident lesions of the uterus, ovaries, etc.

So, also, with the gastro-alimentary, hepatic, cardiac, cerebral, spinal and renal difficulties which sometimes attend upon hysteria. These complications render it still more difficult to cure. For they may be, and often are, themselves secondary upon some inter-pelvic disorder. Under these circumstances you will be compelled to analyze the symptoms, to go back to their first cause, and in selecting the remedy, to recognize the relative importance of the uterine and the ovarian symptoms.

Also of other organs, which are themselves secondary.

For example, in a case of utero-gastric or utero-cardiac disorder,

the symptoms that are referable to the pelvic viscera may afford a more reliable guide in the treatment than the gastric or the cardiac symptoms, separately considered. One of my patients had an intractable emesis which the best chosen internal remedies failed to relieve. In addition to the vomiting, she had a great variety of hysterical symptoms, which alarmed her family exceedingly. Feeling confident, at last, that in her case the remote cause was located within the pelvis, I proposed a vaginal examination. The touch revealed the uterus badly prolapsed. It was replaced and kept in position, and not only did the vomiting cease, but the hysterical symptoms also were cured from that moment.

Utero-gastric and utero-cardiac derangements.

Case.

Another lady suffered from violent attacks of palpitation of the heart. Her physician had decided that she really had organic disease of the heart. These attacks of palpitation followed riding, walking, defecation and coitus. They had occurred repeatedly at intervals for more than three months, when I was called to see her. The nervous system had become so much involved that these paroxysms finally merged into a species of hysterical fit. Vaginal examination with the speculum disclosed an abrasion of almost the whole of the anterior lip of the os uteri. I applied the oleaginous collodion a few times, ordered her to keep off her feet, and in a fortnight the heart disease and its hysterical outgrowth had entirely disappeared. She has had no return of either affection within the last three years.

Case.

These cases are exceptional, but they will serve to illustrate the importance of striking at the root of the real difficulty, when it is possible, instead of contenting yourselves with lopping off a branch here and there in the shape of an impertinent symptom, or class of symptoms.

Hysteria occurring at the climacteric period, or during pregnancy, labor, the parturient state, or lactation, will need to be treated with especial reference to these states or conditions, which are prime factors in the production and modification of its symptoms.

Other complicating conditions.

During the winter I shall have frequent occasion to elaborate and apply these general rules for the treatment of Hysteria. I will therefore spare you the infliction of a lecture upon its special

therapeutics this morning. In the present connection it must suffice to remind you that it is one thing to put an end to the hysterical fit, by the use of such expedients as any old nurse could suggest and apply, and quite another thing to treat the various forms of this disease intelligently, thoroughly and successfully. For no other affection is so complicated, so enigmatical, so persistent, and so trying in every respect. And yet there is no other more amenable to rational, persevering and appropriate treatment.

[In a recent lecture on neurasthenia in a hysterical subject, Prof. L. said that many of the mental symptoms were distinctly referable to a state of permanent congestion of the pelvic organs, with a coexisting anæmia of the brain or of the spinal cord. The cerebro-spinal anæmia in these cases is likely to be increased by the loss of blood at the month, and by the weakened condition of the digestive function. This is often the real state of things in the hysterical neuroses. In the young girl it is developed from brain-fag in the boarding-school, and from sedentary and luxurious habits at home, where dress and inaction determined intra-pelvic congestion and menstrual derangements. In married women the same train of symptoms are exaggerated, and back-ache, headache, womb-tire, weariness and physical dilapidation are the result.

Neurasthenia.

Sometimes, and especially toward the climacteric, and in women of a highly intellectual cast, these conditions of local hyperæmia and anæmia are reversed. The cerebro-spinal axis is surcharged with blood, while the pelvic viscera are not supplied as freely as they should be. But here also are nervous symptoms that are peculiar and very difficult of cure.

The general remedies for this peculiar form of hysterical neuroses includes the careful use of electricity; of massage, with friction, kneading, tapping and percussion; of the motion of the joints and their extremities; of good feeding and of seclusion from every one but the physician and the necessary attendants.]

HYSTERICAL HEMIPLEGIA.

Case.—Mary J———, aged 29, seamstress, unmarried, had been in poor health for more than a month, complaining of headache, fatigue, debility, drowsiness, loss of memory, and disinclination to work. Two weeks ago she was suddenly seized during the night with a violent fit of hysteria. The spasms of the voluntary muscles were very severe. She talked foolishly of her little

love affairs, of church matters, and upon all kinds of topics. In about half an hour the paroxysm passed off with alternate laughing and crying, and finally with the escape of a large quantity of colorless urine. The next morning her right arm and leg were paralyzed. The muscles were relaxed. She could move the leg a little, but only with the greatest effort. The arm was quite powerless. Her consciousness was complete, and had been from the subsidence of the fit. The face was not paralyzed, nor did the tongue turn to the right angle of the mouth when she protruded it; her speech was unimpaired, but it was sometimes difficult for her to swallow. She complained of frontal headache and inability to sleep. The right pupil was considerably enlarged, but the left one remained unaltered. The bowels were obstinately constipated.

The menstrual flow, which had begun only a few hours before the hysterical attack set in, was arrested, and did not return. She has been subject to amenorrhœa, and sometimes passes several months without any "show." She has frequently had hysteria in a mild form, but these paralytic symptoms are new, and have alarmed both herself and family very much.

This case is *apropos* to the preceding one. It furnishes another illustration of the hysterical mimicry of which I have already spoken. One would say, at first thought, that it would be quite impossible for this or any other affection to imitate so grave a disease as hemiplegia. But here you see a case in which the right half of the body is powerless. This poor girl had to be carried into the amphitheatre, for she cannot stand alone. When she attempts to walk, the right limb, which seems a little stronger than it was at first, swings with a pendulum-like motion, directly forwards and backwards, but its abduction and adduction are impossible. You will observe that the arm hangs helpless by her side.

Hysterical mimicry.

There is an evident paralysis of the nerves of motion. Let us see if the nerves of sensation are in the same state. For these two forms of palsy have no necessary relation to each other. Observe that when I stuck the pin into her arm, to test this question, it was done without her knowledge. If I had told you in her hearing what I intended to do, and she had seen the point of the pin coming towards her, she would have imagined that she felt it, whether she really did so or not. We must be cautious in these little matters. I once introduced a sound into the female bladder, and on turning it about observed

A practical test.

a clicking noise, which exactly resembled that caused by the striking of a metallic instrument against a calculus, which disease she was supposed to have. Having withdrawn the instrument, I was about to declare that my patient had stone in the bladder, when, upon turning its handle, I discovered that it had become loosened and gave forth precisely the same click that I had heard before. This shows the importance of being always on our guard, lest we arrive at wrong conclusions in diagnosis.

Caution.

Naturally enough you would like to know what variety of unilateral paralysis it is from which this patient is suffering. I have no doubt but that it is hysterical, and my judgment is based upon the following reasons.

Diagnosis.

1. She is of the hysterical temperament. This peculiar constitution is as different from the apoplectic habit as the scrofulous cachexia is from the sanguineous temperament. The fact that she has been subject to hysteria before precludes the probability that her paralysis is due to effusion, either of blood or of serum, within the cerebro-spinal cavity.

Points.

2. Hysterical attacks commence abruptly, and are not accompanied by marked signs of congestion, fever, coma or constitutional disturbance. There are no lesions of the perceptive centers in hysteria, as there are in apoplexy, whether it be nervous, serous, or sanguineous.

3. The relation of the menstrual arrest to the initiatory paroxysm. A mere suppression of the menses in one of her slender form and delicate organization would not be likely to induce such a determination of blood to the head as to result in apoplexy, or such a disorder of the cerebral nutrition as, in the short space of a fortnight (more especially in one so young), to cause softening of the brain. In such subjects as this the menses are very apt to be scanty and irregular. Hysterical paralysis is more frequent at puberty and the change of life, when these particular crises influence the general nervous system so decidedly, than at other times.

4. The sweeping motion of the leg, and the absence of paralysis of the face and tongue, enable us to exclude the more ordinary forms of hemiplegia, and to identify the hysterical variety.

Other signs are classed as diagnostic of this singular affection.

Among them are the ability to move the palsied extremity under sudden and powerful emotional impulse. Such a patient may sometimes be so shocked or startled as to use the limb automatically, and without thinking of what she is doing. One of my neighbors, who had not walked a square for months, left her bed suddenly, the night of the great fire in this city, in October last, and marched three miles in order to save her life.

Other differential signs.

If the patient feigns paralysis of the arm especially, you will observe that when she stoops forward she keeps it close to her side. In absolute paralysis of that member it would be impossible for her to do so, for, having no voluntary control over it, it would fall forward when she stoops towards the floor.

Position of the arm.

Another distinguishing peculiarity of the hysterical paralysis is that there is very little atrophy of the muscles of the affected part. If the arm or the leg, or both, are helpless and useless for months, their size is not so apt to be diminished as in ordinary palsy. The limb does not become shrunken and attenuated, but remains as plump and fleshy as the sound one.

Absence of atrophy.

In many cases, the hyterical fits recur from time to time, with or without choreic movements of the other voluntary muscles. Sometimes there is an incidental aphonia, and globus hystericus is the rule and not the exception.

Hysterical hemiplegia is not a very common form of paralysis. Hysterical paraplegia is more frequently seen. In the former it is said that the left side is more apt to be affected than the right one. Being largely the result of emotional causes, there is no doubt that it may occur in men as well as in women. Indeed it is very probable that a large proportion of the cases of paralysis that are cured by itinerant pretenders through the "laying on of hands," animal magnetism, and every species of mummery, are hysterical, functional, emotional, circumstantial, self-limited, and not dependent upon any structural lesion whatever.

May occur in males.

Unless the disease is complicated with some serious lesion, either of the brain or spinal cord, the prognosis is generally favorable. It may require a long time to effect a cure, but the patient

and persistent use of the proper means will ultimately succeed.

Prognosis.

In many cases the affection leaves as abruptly as the hysterical aphonia or meteorism are apt to do. If the paralysis comes on during the climacteric, the more or less serious nature of the incidental disorders, and the condition of the general health will modify your judgment of its severity.

Treatment. — The auxiliary treatment of this affection is very important. It includes the proper employment of friction, electricity, animal magnetism, the movement cure, the health-lift, Faradization, bathing, and exercise, both physical and mental. It prescribes fresh air, sunlight, change of scene, travel, pleasant and agreeable society, good, healthy, and nourishing food, and the careful use of stimulants. It orders the removal of whatever may cause her to become impatient and irritable, or that can in any way disturb her mental equilibrium.

Adjuvants.

Ignatia, gelseminum, belladonna, secale cornutum, cuprum, plumbum, rhus tox., cocculus, causticum, baryta carb., caulophyllin, phosphorus, and zincum metallicum, are the remedies most frequently indicated.

Internal remedies.

A ready expedient for the detection of hysteria consists in the application of pressure which has the effect to shorten the paroxysm or to solve the diagnostic riddle if the disease is not paroxysmal. One method is to press firmly with the thumbs over the supra-orbital notches, no matter what struggles the patient may make. Another is to press upon the ovarian region, or upon one or another of the hysterogenic points of Charcot until the fit is arrested, or the muscular and mental symptoms are controlled. Pressure upon the abdomen, and even in the inguinal region, will arrest the hysteroid, the hysterical and the hystero-epileptiform fit in boys and men as well as in women.

A peculiar hint in diagnosis

LECTURE L.

SPINAL IRRITATION—NOTALGIA.

Spinal irritation, back ache. *Case.*—**Causes, predisposing and exciting, traumatic and nervous. Symptoms, reflex and direct. Spinal irritation and uterine disease. Diagnosis in post-traumatic cases, difficulties of, from myelitis. Prognosis. Treatment for the menstrual, rheumatic and neuralgic, complications, local treatment, Faradization.** *Physometra. Case.*—**Causes. Diagnosis. Treatment.**

Some of the more advanced members of the class have frequently consulted me with regard to the treatment of spinal irritation. This woman has suffered from that disease for many years, and her clinical history will doubtless interest you.

Case.—Mrs. M., aged fifty, enjoyed excellent health until her eleventh year. At that time, while running at play, she fell and struck the back of her neck against the corner of a table. The blow was upon the most prominent of the lower cervical vertebræ, (*vertebra prominens*). In consequence of this injury she was for six weeks very ill in bed, and so extremely weak and sensitive that they had to move her on a sheet. Several months elapsed before she could wear a dress. She finally got around again, but for several years her physicians did her but little good, and none of them referred her poor health to the injury that she had received. Finally, another physician, Dr. ——, while visiting her mother one day, touched the spot where the blow was received upon the neck, and she suddenly fainted away. Then followed a thorough course of blisters, with tartar emetic dressings, cups, leeches, and four years of barbarous treatment, which to think of, makes her "shudder to this day." With this treatment, there was much sloughing of flesh from the back, which is all scarred up now. It was a regular field-day when these sores were dressed. She cried, her mother cried, and all hands cried, but they could do no better, and she facetiously says, "it was equally impossible to do anything worse." In consequence of this injury, the left foot and limb were changed, the heel being drawn up as in a form of club-foot (*pes equinus*), in which position it remains.

She did not menstruate until she had reached her eighteenth year, and then only once. She "never saw anything again" until after she was nineteen years old. From the time that menstruation was really established, she began to improve, and kept toler-

ably well. At twenty-two she was married, and for eighteen months more her health remained pretty good. Then she skipped one month, and was supposed to be pregnant. At the eighth week she began to flow excessively. The hæmorrhage continued, better and then very much worse, without interruption for two months more. Despite this flooding, her size increased until she measured one and one-quarter yards (forty-five inches) around the body over the abdomen. She was said by the physicians to be four months advanced in pregnancy.

The flooding reduced her to death's door, and was not relieved until labor pains came on and continued severely enough to expel an enormous mass, which proved to be hydatids. With this mass many gallons of water were also discharged. The mass consisted of small bodies, which "varied from the size of a pea to that of a walnut, and which were strung together like grapes upon a stem."

Two months elapsed before she could sit up. The lower limbs became powerless, and remained as if paralyzed for many weeks. In a little while the most severe and agonizing headaches commenced. These recurred frequently, and kept her ill the whole summer. They were excruciating, and so severe that "it seemed as if she would go crazy with them."

In eighteen months more her first child, a son, was born. In two years from his birth she had another child, which did not live but a year; and in five years her third and last child, a daughter, was born. In every instance pregnancy and labor were normal in all respects. The labor was very severe, averaging about twenty-four hours, and the children were large. Her first and third children are still living.

When she had been married thirteen years, she received a second injury. While on her way to church, and walking on an icy place down hill, her feet slipped from under her and she fell. She thought of her back and neck, and "tried to save them." For this reason she struck upon her right elbow and her head was twisted backwards. She was lifted upright, and, with a woman's courage, walked home again. When she got up her head was fixed backwards, the muscles of the neck were rigid and spasmodically contracted, so that she could not turn the head or straighten it without taking hold, as she did, with her hands upon either side, and forcibly bringing it into position. When it turned, "something cracked as if a bone had suddenly gone into place." To this day she can not look up to the ceiling without supporting her head from behind with her hands.

In consequence of this second accident she was kept in bed for about three months. The head could not be moved except by others, or rather excepting by her husband and one lady friend. This had to be done most carefully else it brought on paroxsysms

of screaming, and agony that was almost unbearable. The headache returned, but in a different form. The first symptom of an attack was a feeling "as hot as fire almost," in a spot on the top of the head. If the husband began early and promptly when this burning commenced, to rub first over the spot and then to follow along down the body and extremities, the pain in the head would vanish.

From that time until now, the region of the spine, for the space of nearly an inch on either side, and running from the base of the skull to the last dorsal vertebra, has been so exquisitely tender that the weight of a feather brush would excite the keenest suffering. Even if one should point the finger towards the back it would make her "scringe."

The lower part of the spine has remained perfectly well. In no sickness that she has ever had, so her husband says, has her mind seemed to be affected in the least. She has frequently been unconscious and oblivious to passing events, but never in the least delirious or "out of her head."

Before the birth of her last child, and for a short time only, she had some pain with menstruation. With this exception, she has never had dysmenorrhœa, or indeed any "female weakness" of any kind. The spine is not as straight as it should be, but is curved posteriorly at a point midway between the shoulders. She can lie best upon her back, and could do so during all her sickness; but, on account of pulling sensations in the opposite direction, cannot lie upon either side. At times the head has felt very heavy, as if the shoulders could not sustain it, and as if it pushed directly downwards toward the body. It is impossible for her to sit upright without something to lean her head against. She can use her hands from the wrists automatically, providing her head and body are snugly fixed and padded, and there is no necessity for moving them.

Beside the experiences in falling she has incurred other risks, among which was the swallowing of a tea-spoonful of the strong tincture of iodine, which a druggist's clerk had put up for Indian hemp! Opium throws her into violent, frightful spasms, which last for days. She once suffered severely in this manner from taking a small quantity of this drug contained in a cough mixture. She cannot bear either very cold or very warm weather. Her worst attacks of prostration always occur in the winter and spring, generally in the months of February and March.

The menstruation is becoming scantier, the flow is very debilitating and very irregular. As she approaches the climacteric her general health is somewhat improved.

Here is a case that would puzzle a clairvoyant. A spinal injury of a very serious nature is received at the impressible age of

eleven years. Its effect is to delay the establishment of the menstrual function. While the system is suffering, not only from the traumatic lesion of the spinal nerves and muscles, but also from retarded puberty, she is placed under such treatment as would undermine and ruin the health of the strongest person. This voluntary martyrdom was continued for four long years. And yet she lived. At eighteen, when she had discontinued these barbarities, Nature renewed the attempt to establish the catamenia. The flow came once, but was not repeated for more than a year. After her marriage she became pregnant as she supposed, and the doctors insisted. Then after two months of flooding on her part, and of blundering on theirs, she is finally rid of a hydatid mass. Months elapsed and she barely survived. Then followed the birth of her three children.

Résumé.

After thirteen years of married life she sustained the second injury, while on her way to church. (Perhaps it has never occurred to you that the *men* are almost never injured on their way to church.) Then the fearful suffering with the crampings in the muscles of the neck, the hyperæsthesia of the superior spinal region, the headache, and the confinement in bed for several months. And, finally, the incidental vicissitudes and experiences so common to the female portion of humanity. This is but an outline sketch of thirty-nine years' experience on the part of this good woman.

Causes.—Spinal irritation, as it is styled for the lack of a better name, most frequently arises from a traumatic injury, as, for instance, from a direct blow, or a fall upon some portion of the spinal column, or from a railway jar, or contusion. Of course men and women are alike subject to such accidents. But in women, who are more delicately organized, whose spinal muscles and nerves are softer and more susceptible of injury, the first shock is more severe, and its secondary effects are more lasting and permanent. Add to this the peculiar impressibility of her general nervous system, in many cases amounting to a decided hysterical predisposition; and the perturbing influences of the crises through which she is always passing, or is about to pass, and we find there are especial reasons why she should

Traumatic causes.

Peculiar organization a predisponent.

suffer more severely, and why such mishaps are more difficult of cure in her case than in men.

The full significance of this idea is not apparent at first. Not only does it concern the fact that women are especially prone to this kind of martyrdom, but that a large measure of their consequent suffering and mal-treatment is due to ignorance thereof. What a woman wants more than anything else when she is ill, is sympathy. And if her disease is largely nervous, there is still greater need for this kind of universal emollient. But her family and friends are usually the last to realize how a slight fall, blow or shock, can so completely unhinge and demoralize her physically. They talk about resolution and will on her part, and insist that she shall get up and go around, make some effort to throw off this incubus, and develop strength by the use of it. As a rule, the stronger they are, and the more muscular, the less their sympathy with this class of patients. This, of course, reacts upon the victim, and she can not accomplish what might be possible under different circumstances.

Practical inference.

A similar misjudgment on the part of the physician may lead him to adopt such a means of treatment and of exercise as shall only add fuel to the flame. This happened in the case of Mrs. M. While her nervous sympathies and susceptibilities were at their utmost tension, she was put upon the rack and tortured afresh. Her physician made no allowance for sexual impressibility and excitability, and hence the means employed were fitted to increase her suffering rather than to alleviate it.

A common error.

There can be no doubt that the doctor did the best that he could "with the light he had;" but it was the dark lantern of empiricism that he carried. He evidently mistook the case for one of spinal meningitis with effusion. But in this he was in error; for whatever direct injury of the meninges may have followed the first fall, received some years before, the symptoms showed clearly enough that dropsy of the cord was not the real cause of her illness at the time she fainted from pressure upon the spinous process of the cervical vertebra. If any considerable effusion had existed and continued for so long a time, there must have been chronic and complete paralysis.

The very fact that puberty was arrested, without any intra-pelvic lesion, and that menstruation came on spontaneously when the treatment was suspended, shows that the disorder was mainly, if not altogether, of a nervous character. And whatever had a tendency more and more to derange her nervous system could only produce further irritation, perturbation and unrest. The marvel is that she survived such unskilful and harmful treatment at all.

Of nervous origin.

Other causes of spinal irritation are strains, as from lifting, or jumping, lying, sitting or standing habitually in such a posture as to keep the spinal muscles on the stretch, and thus to weaken and paralyze them. Rheumatism and neuralgia being predisponents of this disease, persons who have either of them are more or less decidedly susceptible to changes in the weather. For this reason, among others, as with our patient, extremes of heat and cold, and more especially of dryness and moisture, influence it greatly. The jar of travel by rail, in a rough carriage, or upon horseback, may induce it. And so, also, of tight lacing, the wearing of high-heeled shoes, and of articles of dress which are fastened at the waist and not hung upon the shoulders.

Exciting causes.

Symptoms. — The symptoms are almost endless in their variety. If the disease has been caused by direct traumatic injury of the spine, the most severe pain will be located there, and we may accordingly find the suffering referred either to the lumbo-sacral, the dorsal, or the cervical region.

If it is in the sacral region the pain will be less acute than when it is higher up along the vertebral column. It will be dull, aching and heavy in character, with complaint of great weariness, exhaustion, and perhaps of numbness also. The patient wishes something to be pressed "into the hollow of her back," or to have her hips rest firmly upon something for support. She often stuffs a pillow or her shawl, or something of that kind, beneath her, or behind her, to rest her back and to give her ease. These pains are often accompanied by intra-pelvic pains, bearing down and distress, as if the womb were displaced. Indeed, they are often wrongly attributed to some slight and temporary deviation of the womb, and the attempt is made to cure them by pessaries, injections, etc.

From injury in the sacral region.

When the results of the injury, or the lesion, if there is one, are located in the dorsal region, the pain is more acute, with supersensitiveness of the skin over the spinous processes of the dorsal vertebræ. Sometimes these processes are exquisitely tender to the touch. Direct pressure upon them, although it may be slight, may cause her to fall, to faint, to vomit, or to shriek as if she had been shot. I have seen two cases in which the pain produced in this way was compared to that from stabbing with a very sharp knife. The dorsal vertebræ are most frequently affected.

From injury in the dorsal region.

If the blow has been received, or the injury done to the spine, in the cervical region, the pain and soreness will vary according to circumstances. The suffering is apt to be very severe. Sometimes the arms become powerless from injury of the nerves which constitute the brachial plexus. Other branches of the cervical nerves being injured by the blow or the shock, the muscles of the back part of the neck are more or less implicated. These muscles, which you know are very numerous, including the splenius colli, splenius capitis, cervicalis ascendens, transversalis colli, the trachelo- and sterno-mastoid, complexus, spinalis cervicis, trapezius and the obliquus superioris, are those which were spasmodically affected in the case of our patient, It was the painful cramp or contraction of these muscles that caused her head to be almost as immovably fixed as it is in torticollis, or wry-neck. Pressure upon the tender cervical vertebra may even stop the pulse at the wrist.

From injury in the cervical region.

When the symptoms are produced by other than mechanical causes, they are usually less intense but more erratic in their nature. The spinal tenderness is more diffuse. It may be located in any portion of the back from the occiput to the point of the coccyx. Light pressure on the spinous processes of the tender vertebræ produces considerable pain, while firm pressure may be borne without flinching. This shows its neuralgic character.

From incidental causes.

Now, from what I have said you will infer that the causes of spinal irritation act either centrically or eccentrically. In the former case a mechanical injury is done to some portion of the vertebral column. The shock is felt by the spinal nerves, and the muscles

Their centric and eccentric action.

participate more or less in the painful result. In the eccentric variety, however, the cause is more remotely applied. The irritant is at work at the incident nerves in their distribution to some muscle or organ, and, in a reflex way, the spinal center may become implicated even to the extent of producing absolute organic disease of the medulla, or of its enveloping membranes. The pain and trouble may become localized, but the irritation caused in these nerves is more apt to be reflected from the cord again to some particular organ or apparatus, as, for example, to the stomach or the bowels, to the bronchi and the lungs, to the heart, the head, or the liver.

It is in this manner that utero-meningeal disorders originate and are perpetuated. There are undoubtedly many cases of spinal irritation that are in no way connected with uterine disease. And there are other cases in which, for sexual reasons, and on account of the perturbing influence of the menstrual molimen, or of maternal contingencies, the womb becomes indirectly and secondarily implicated. But there are other cases also in which the uterus has been the prime factor in this morbid process; cases in which the spinal nerves and the medulla itself have become deranged and diseased in consequence of some pre-existing uterine lesion. For this reason there are few confirmed examples of "irritable uterus," in which these two affections do not co-exist.

Spinal irritation and uterine disease.

Moreover, most of the fugitive, peculiar, inexplicable local pains, burning and suffering that are incident to confirmed diseases and deviations of the womb, arise from uterine irritation which is conveyed by the sensitive nerve filaments to the cord and then reflected to these different points. It is thus that the infra-mammary pain is produced. You remember that Dr. Simpson said this pain was as characteristic of uterine disease as the pain in the point of the shoulder is of hepatic disorder. We may refer the occipital headache of menstruation to a similar cause. The point which I wish to make is this, that the continued application of this irritant, brought from the suffering part to the sentient center, in the person of delicate, nervous women, is almost certain to cause a greater or less degree of spinal irritation.

Reflex symptoms.

And what is true of the uterus is also true of the ovaries. The

most troublesome cases of spinal irritation that I have ever treated originated in ovaralgia. The contingencies that beset ovulation even when the periods are regular; that may derange the innervation of these organs at puberty and the climacteric; that may result from intemperate coitus and similar causes, are indirectly responsible for a large proportion of cases of what are termed spinal irritation. There may be cases in which the converse is true, and wherein the ovarian disease is secondary upon the spinal lesion. Indeed, it is sometimes extremely difficult to decide between the cause and its effect, and to say positively whether the ovarian lesion is idiopathic, or *vice versa*.

From ovarian implication.

As a rule, however, I think you will find that the other coincident disorders which sometimes attend upon spinal irritation are almost always secondary. Such are the diseases of the respiratory system. It is seldom that aphonia, spasm of the glottis, dyspnœa, or a violent nervous cough, in these cases is not directly referable to the spinal lesion. So also of functional troubles of the heart, and of the digestive system. We look to the spinal center for their cause, and hope to relieve them by its cure or removal.

Secondary diseases.

Diagnosis— Providing it has been caused by direct injury, and is therefore traumatic, the diagnosis of spinal irritation is not very difficult. This is true, no matter how long a period may have elapsed since the injury was sustained. It holds in Mrs. M.'s case, for example, although thirty-nine years have passed since the date of the accident. For this reason you should take especial pains to enquire whether such a patient has ever fallen, or received a blow upon any part of her back. It is possible that so long a time has elapsed since the accident occurred, or that the mischief itself was attended by so little pain and immediate illness, that it may have been forgotten. She may have tumbled down stairs, fallen upon the ice, from her horse while riding, or from a chair upon which she was about to sit, and hurt her back long ago, but because she thought it a trivial affair at the time, may forget to mention the circumstance unless you enquire for it.

In post-traumatic cases.

Or it may happen that on account of mechanical injury to the coccyx during labor, a similar train of symptoms may have

been induced. In a word, whenever you can refer the lesion to a traumatic injury, however complicated the attendant symptoms, or trivial and remote the date of the accident, the original idiopathic disease will not be difficult of recognition.

May arise from coccyodynia.

But, under different circumstances, the case is very different. When neither the patient nor her friends can recall such a misfortune, and there is no reason to believe that any portion of the vertebral column has ever been directly injured, it will not be so easy to decide the question. The tenderness of some portion of the spine upon contact and pressure, more particularly if it is constant, or habitual in certain positions of the body, is quite characteristic. If this tenderness is aggravated by the return of interruption of the menses, by coitus, by emotional states, or by sudden displacements of the womb, there is manifest spinal irritation of a reflex nature. Sometimes this exacerbation of pain and super-sensitiveness in the spine alternates with the sexual infirmity or excitement, and this fact will help you to differentiate it properly. In very rare cases there is a cutaneous anæsthesia, which is allied to the pseudo-narcotism of hysteria, and which is almost invariably due to uterine or ovarian disease.

Difficulties in the way of diagnosis.

Spinal irritation should not, and need not be confounded with inflammation of the spinal cord or of its membranes. Its advent is not characterized by a chill, rigors or fever. The pain is circumscribed in extent, erratic in character, and, in general, is worse upon slight, than upon steady or firm pressure. There is less dread of motion, and, unless in case of traumatic myalgia, more ability to move about than in real meningitis and myelitis. In the adult, meningitis is almost always either traumatic or epidemic. If paralysis occurs in spinal irritation, it is self-limited and not permanent, as it is apt to be in consequence of inflammation with serous effusion into the spinal canal.

Diagnosis from inflammation of the cord, etc.

This disease may be distinguished from true neuralgia by the diffuseness of the pain which does not follow the track of any nerve or nerves, but is characterized, so far as it extends, by a general cutaneous tenderness. The reflex irritability is exaggerated, and sometimes intensely so. Spinal irritation bears a pretty

close resemblance to neuralgia, however, in such cases as we have had under review this morning. For where the cervical vertebræ are injured, it presents many of the symptoms of cervico-brachial neuralgia. This is especially true in highly neurotic patients.

Prognosis.—The prognosis will depend upon the location, nature, extent, severity, and duration of the spinal lesion, the age of the patient, her peculiar nervous impressibility, and the more or less serious derangement of the menstrual function. The danger is not usually proportionate to the degree of suffering. Coincident disorders of respiration may be more grave in character than such as implicate digestion. The nervous symptoms are usually more alarming than serious, although it is possible that permanent paralysis of some of the voluntary muscles may follow. In some cases there is a form of hysterical mania that is quite unmanageable by the ordinary means, which is, however, likely to terminate of itself, providing too much is not done in the way of treatment.

In case the irritation has been caused and maintained by a lesion of the generative organs, the possibility of cure will depend upon one of two things; (1), the curability of the uterine or of the ovarian disease, whatever it may be, and (2), our ability to remove such sequelæ as may remain when the antecedent affection has been remedied. Patients with spinal irritation frequently recover when the climacteric has passed.

Treatment.—These are the patients who travel from one physician to another. By the time you have them fairly in hand you will find that they are experienced itinerants. They have run the whole gamut of the professional possibilities, and, at last, are persuaded that, if you can not benefit them, nobody can. But, in a short time, unless you are very skillful in treating them, or successful in satisfying them that you do really understand the case and expect to cure them, they will be adrift again.

Itinerant patients.

If from any cause the symptoms of spinal irritation are developed, as they were in this case, at a time when the menstrual function is about to be established, or when the changes that are incident to puberty have already begun, you should take the greatest possible care to do nothing that can interrupt this process, or pre-

Guard the menstrual function.

vent its accomplishment. Your aim should be to remove all obstacles thereto, and so to regulate the operations of the nervous system as to favor and assist Nature in her critical effort. For it is manifest that if puberty is not delayed, and the catamenia appear as they should, the nervous and other functions can not be in a very bad condition.

If the symptoms of spinal irritation appear when the menses have been suppressed, as after pregnancy, lying-in and lactation, or from amenorrhœa, a similar indication will exist. And if they come on with the climacteric period, you will bear in mind what I said in my last lecture concerning their treatment under these circumstances.

In amenorrhœa and at the climacteric.

Incidentally, whatever disease may drain the patient's strength or exhaust her energies, should be remedied as speedily as possible. A quarter of a century ago, when this poor woman suffered for two consecutive months with uterine hæmorrhage that was due to the presence of a hydatid mass in utero, there may have been some excuse for a lack of promptness in emptying the womb and stopping the flow. For the sponge-tent was unknown, and physicians had almost as great a dread of manipulating or operating upon the uterine cervix as surgeons had of opening the cavity of the peritoneum. But now such a hæmorrhage should not be permitted. The neck of the womb could be readily dilated and the foreign body removed.

Remove any dangerous condition.

In order to counteract the peculiar impressibility of your female patients, and thereby to put them in a condition that is favorable to the cure of spinal irritation, you will need to exercise a great deal of tact and a large measure of sympathy and discretion. Rough treatment may sometimes be tolerated in other cases (although it is inexcusable), but in this disease it will not be borne. The patient's perceptions are too acute, and she is too susceptible and sensitive to be treated in such a way. Your manner should be kindly, your words fitly chosen, your tone sympathizing, and your faith in her desire to get well, and not to deceive you, unbounded. If you are fully impressed with the tenderness and delicacy of her organization on the one hand, and with the irritable, excitable and wretched state

Tact and sympathy.

of her nervous system on the other, you will never be guilty of adopting such a mode of treatment as must necessarily make her worse instead of better.

If the attack originated in a strain, shock, blow, or fall, although years may have passed since the injury was sustained, arnica, rhus tox., calendula, or the hypericum perf., will be indicated. I have great confidence in the latter remedy given internally and applied locally at the same time for traumatic injuries of the spine and its membranes. The other medicines named may also be used both constitutionally and externally.

For the effects of the spinal injury.

For rheumatic and neuralgic complications the most prominent remedy in many cases is macrotin, after which there are rhus tox., bryonia, spigelia, belladonna, atropine, aconite, veratrum alb., veratrum vir., colocynth, lachesis, caulophyllum, nux vomica, colchicum, and gelseminum, with the leading indications for which you are already familiar.

For rheumatic and neuralgic symptoms.

Whatever uterine or ovarian diseases have been sufficient to cause or to complicate the spinal lesion, should first be treated as if they existed separately and idiopathically. But when these are removed or cured, such spinal and nervous sequelæ as remain may be treated more directly and specifically. Uterine deviations, cervicitis, hypertrophy, and ulceration of the cervix uteri and hysteralgia are the more frequent of these affections, which have the first claim on our professional attention. To these may be added subacute and chronic ovaritis, and ovarian neuralgia.

For the uterine and ovarian symptoms.

The respiratory, digestive, hepatic and general nervous derangements which are secondary upon the spinal trouble, will usually yield to treatment that is addressed to the cure of the lesion upon which they are dependent for a cause. The symptoms must be carefully studied and the remedy affiliated properly, else there will be but a poor prospect of success.

For contingent disorders.

Local adjuvants are sometimes of the greatest possible service in the treatment of this troublesome complaint. They are not only grateful and useful on account of the relief which they afford, but do really assist in

Local treatment.

the cure. I suppose that their *modus operandi* is by excluding the presence and pressure of the atmosphere upon the tender surface along the spine. My own preference for these local expedients has been based upon the following indications:

If the muscles of the back or of the neck are cramped and very painful, I direct that the surface shall be thoroughly anointed with camphorated oil. This may be gently rubbed over the painful part, or applied by means of flannel compresses. The oil soothes and softens, and the camphor relaxes the muscular spasm. Bathing with spirits of camphor is less efficacious, because both the camphor and the alcohol evaporate so quickly.

For painful cramping, etc.

Where there is less pain and more diffuse tenderness, it gives great relief to coat the surface with the oleaginous collodion.

If the disease has resulted from a mechanical cause, you will not forget the local use of arnica, hypericum, calendula and hamamelis. I believe these topical applications have the best effect, in this disease especially, when they are diluted in and applied by means of hot, instead of cool or cold water. In mild cases, a porous plaster will sometimes afford relief. Dry cupping, and the exhaustion of the air by means of cups to which the air-pump is attached, affords a useful expedient in some cases. But sinapisms, blisters, pustulation by croton oil or tartar emetic, and issues and setons of all kinds are harmful and unnecessary.

Topical expedients.

The spine should be insulated as it were, by a layer of cotton batting, or of oiled silk, worn next the skin. The cotton may be sewed into the clothing and kept constantly applied, day and night. It should extend from the neck throughout the whole length of the back. In many cases, more particularly in those who are predisposed to rheumatism, the patient should wear a silk vest, or under-wrapper, to protect her from sudden vicissitudes of the weather and from electrical changes.

Domestic expedients.

Sponging the back from above downwards with warm, or hot water, may help to remove the extreme sensitiveness of the integument. It should be done very carefully however, and, if possible, by a person who is in sympathy with the patient, and towards whom she has no feeling

Available expedients.

of antagonism. In chronic cases, with marked debility, salt-water spongings along the spine are sometimes very beneficial. In certain cases, the shower-bath, electricity, and animal magnetism may also be useful. They should, however, be administered with care and discrimination, else they may only serve to increase the difficulty. The electrical bath answers as an available tonic, when the general strength is very much reduced, and the patient's nervous system needs a ready means of support of some kind.

A recent writer says: "There is one special phase, however, of spinal irritation which is very amenable to a direct treatment, viz., cutaneous and mucous tenderness. Whenever the 'hyperæsthetic' part is within reach, so that we can apply Faradization, we can almost certainly eradicate the morbid sensibility very quickly. The secondary current of an electro-magnetic or volta-electric induction apparatus is to be employed; the conductors should be of dry metal, and the negative one, which is to be applied to the painful surface, should be in the form of the wire-brush. The positive pole is to be placed on some indifferent spot, and the negative is to be stroked briskly backward or forward over the sensitive skin, a pretty strong current being employed. The process is painful, so much so that it will often be advisable, with delicate patients, either to administer chloroform or to inject morphia subcutaneously before the Faradization. A very few daily sittings of four or five minutes length, will generally remove the morbid tenderness completely. When the tender part is within one of the cavities, as the rectum, bladder, vagina, or pharynx, we must of course use a solid negative conductor of appropriate form, and must content ourselves with applying it to one point after another of the sensitive surface."

Faradization.

Here are the notes of a case of "back-ache" which applied for treatment a few days ago.

Case.—Mrs.——, aged 27, living in Wisconsin, is the mother of two children, the youngest of which is eighteen months old. From her marriage at eighteen, until the birth of her child in the twenty-first year, she was subject to uterine catarrh, and was in wretched health in consequence. But after the baby was born she recovered entirely, and was well until the birth of her second child, two years later. Her second labor, which was more tedious and difficult than the first, was natural, except that the placenta was

so adherent that the doctor had great difficulty in removing it. For four years she has not seen a well day. Her symptoms are a constant pain in the back which unnerves her, keeps her off her feet, and "drags the very life out of her." The stomach is upset, the emotion are demoralized. She is bankrupt physically, cannot sleep, eat or think as she should, and, more than all has been through the hands of five doctors.

A local examination disclosed a decided prolapse of the womb and the vagina, and a laceration of the perineum as far as the sphincter and, she had never been examined but once before, when, she says she was almost killed by an instrument that was forced into the vagina! It really was unnecessary to use a speculum, for with the perineum laid open and the vagina almost everted, the uterus fell readily into view by the mere separation of the labia. It seems incredible that so many physicians could have prescribed for her without having made a local examination. But it is not strange that she should have had so many symptoms of dilapidation, and that her nervous system should be such a wreck, when the pelvic organs were in such a condition.

PHYSOMETRA.

Case.— May, 1864. Mrs. B——, aged twenty-four, of sanguineo-nervous temperament, has been married six years, and is the mother of two children. She was delivered of the youngest of these, one year ago,— during the riots in the city of New York. She says she had a short and easy labor, after which she did well until the third day, when, the report having been circulated that the house in which she was living would be fired or destroyed, she was obliged to remove to another. The distance being only two squares, she insisted upon walking, and really accomplished the task, but under great mental excitement. The result was at first a partial, and after the fifth day, a complete suppression of the lochia.

In a short time her present symptoms began to trouble her, and they have continued during the whole year. There is a circumscribed enlargement of the abdomen, situated in the mesian line, and extending from the pubis towards the umbilicus. This tumor increases in size so that at times she is quite as large, and looks as if she were seven months advanced in pregnancy. At other times, and especially after a good night's rest, its size is greatly reduced. Exercise and excitement increase its volume.

When she reclines the tumor gravitates or rolls toward the side upon which she is lying, but without any change in its form, and

without borborygmus. It is still circumscribed, and always tympanitic. The neighboring parts yield their normal sounds on percussion. The only pain she has had is a species of soreness from outward pressure, or distension. She is at times sensible of having had a discharge of flatus per vaginam, but has never had eructations.

Sometimes, she says, this tumor or swelling feels as if it were rising into the stomach, and again into the throat. Occasionally she has headache and a flushed face, especially in the afternoon. She is a very intelligent woman, and is confident that she has never before had any uterine difficulties. The urinary function is normal, and in every other respect she is healthy. She was unable to nurse her child.

It may be a long time before you will see so good an illustration of this curious affection as we have here this morning.

The tumor.

Indeed, owing to its rarity, many physicians of large experience have never seen a case of this kind. If you observe the physical characters of this phantom tumor, you will note that its outline is as well-defined as that of an ovarian cyst. It may be very hard, or it may yield to pressure, like a soft foot-ball, and is tympanitic on percussion. You hear this sound distinctly. The tumor changes its position when she turns upon either side, and rolls about to a limited degree, but there is no bulging in the lumbar region, and no flattening of the anterior surface of the tumor when she lies upon her back, as in ascites.

Physometra, or the collection of flatus in the womb, is almost always, directly or indirectly, related to gestation, or to the parturient state. Sometimes, however, it occurs during menstruation, and again in consequence of the presence of uterine hydatids, moles, polypi, and such intra-uterine growths as are liable to become decomposed, either before or after their detachment. Whether as cause or effect, hysterical symptoms are always present in these cases, as in other forms of tympanites to which women are more especially, but not exclusively liable. The lochia, the milk, and the menses, are suppressed. Sometimes, however, the breasts fill as they do in pregnancy. The nervous symptoms predominate.

The most commonly accepted cause of this singular infirmity is the retention and decomposition in utero of the fœtus, of some

portion of the secundines after delivery; or similar changes in fragments of intra-uterine growths which have failed to be expelled by nature, or removed by the physician. The gas that is formed in consequence of the decomposition of organic matters is fetid, and is incarcerated in the cavity of the womb by the spasmodic closure of the cervical outlet.

Causes.

Decomposition of matter retained.

It is possible that similar changes may take place in the menstrual excretion, and also in the membrane (decidua menstrualis), which is sometimes exfoliated during that process, and which if it is retained by closure of the uterine neck, might also undergo chemical decomposition. Occasionally the arrest of the lochia results in the development of this form of uterine tumor. This cause is more powerful when conjoined, as in this case, with apprehension and anxiety, as well as with premature exposure and excess of fatigue almost immediately after the birth of the child.

Some writers ascribe the uterine enlargement in physometra to a collection of atmospheric air in the womb, which is either drawn into that organ by a species of suction, or passes into it when the os uteri is open and other matters have so escaped as to leave a vacuum, into which the air may rush until it is filled. Dr. Harley cites a case of alternate admission into, and expulsion of air from the vagina.* Something of this kind, it is thought, may, in very exceptional cases, take place in the womb.

Suction of air into the womb.

But there are instances in which, unless we ascribe it to mental excitement, it is quite impossible to detect any cause for this tumor. Acting upon a hysterical predisposition, there is no valid reason why an excess of flatus might not be as readily secreted or formed within the uterus, as it obviously may in the bowel or the stomach from a similar cause. And nothing is more common than hysterical tympanites from emotional causes in this class of patients. But I will not detain you with further remarks on this subject.

Mental causes.

The diagnosis is much easier than it was a few years ago. You have only to put the patient under the influence of chloroform or ether, and the differentiation of this species of tumor will declare itself. For if it is a case

Diagnosis.

*Transactions of the Obstetrical Society of London, Vol. IV., page 173.

of physometra, or indeed of a phantom tumor of any kind, the enlargement will disappear altogether. You can satisfy yourselves that the accumulation has been in the womb and not in the bowel, by passing a small canula, or a male cathether, through the os uteri. Then, by placing the outer extremity of the instrument under water you can evacuate the tumor through it, and be assured of the escape of gas therefrom. I tried this experiment on our patient yesterday, and, therefore, am confident in my diagnosis.

The treatment consists in removing any decayed substances that may have remained in utero; and in preventing their retention in the future. The cervix may be kept open for the free discharge of such matters, and of the gas also, by the use of the sponge-tent and the ordinary means of dilatation. If the case is a recent one, and the lochia have been suppressed, they should, if possible, be restored. If the patient is hysterical, this tendency should be counteracted by appropriate medical, moral and hygienic means. If the excessive size of the tumor worries her, it may be evacuated a few times for her comfort during the day.*

Treatment.

In case the uterine tympanitis depends upon the retention and decomposition of water within the womb [hydrometra], of blood within the same cavity [hæmatometra], or of pus [pyometra], the fluid or its debris must be evacuated either by paracentesis, or by the forcible dilatation of the cervix uteri. But, you should remember that the mere expansion of the neck of the womb and the escape of the decomposing fluid is not all that would be required. For putrid or purulent changes would only be hastened by insuring its contact with the air; and hence it is quite as necessary to cleanse the uterine cavity of its poisonous materials as it is to furnish an outlet for them.

Tapping the uterus.

Although it is the fashion just now to carbolize the intra-uterine injections when they are necessary, both in the puerperal and the non-puerperal state, my own preference is for a solution of the chloride of lime, which is a better disinfectant, and quite as good an anti-septic. As you have seen us use it in our puerperal

Intra-uterine injections.

* In four weeks this woman was well and menstruating normally.

wards, you may add a tablespoonful of the officinal solution of the chloride of lime, which you can obtain from the druggist, to a quart of warm water that already contains a tablespoonful each of glycerine and calendula. If the odor is extremely offensive, the proportion of the lime-water and the glycerine may be doubled.

Case.

In a very interesting case of physometra that was brought to me by Dr. A. J. Howe, of California, there was a marked increase in the gaseous accumulation whenever the patient had an excess of mental work or worry, and her greatest relief was obtained by letting the mind rest, more especially at the time of the monthly period.

PART NINTH.

THE SURGICAL DISEASES.

LECTURE LI.

UTERINE SURGERY VERSUS UTERINE THERAPEUTICS.

Uterine surgery vs. Uterine therapeutics. The gynæcological chair or table. Vaginismus.

The line of demarcation between sanity and insanity, animal and vegetable life, and this world and the next, is not more indefinite than that which separates surgical from therapeutical indications in the cure of many diseases. This is especially true of the treatment of the Diseases of Women. What reliance shall be placed on manual operations, and what upon medicinal influences in curing them, is an unsettled question. There are those who insist that, in this specialty, surgery is almost omnipotent, and *per contra* those also who claim that constitutional remedies alone are adequate to the end in view.

Value of uterine surgery.

The attentive student of gynæcology is aware that within the last quarter of a century, Uterine Surgery has developed from a rudimentary to an almost perfect branch of medical science. It has furnished us with the most approved and available means of diagnosis, and with a multitude of resources for the relief and cure of certain diseases that were the opprobrium of medicine. It has fulfilled old indications with new and approved instruments, reconstructed the special pathology of sexual disease, and re-organized our aims and purposes and expedients in such a manner as to add very greatly to the comfort and welfare of woman. It has added another chair to the medical curriculum, augmented and improved our literature, and developed a new and most useful specialty, which already is more popular than any other, and which, at no distant day, bids fair to engross the attention and to appropriate to itself a large share of the medical talent of this and other countries.

It was a very natural consequence of this rapid growth in the professional and popular favor that the claims set up for Surgery,

as applied to the treatment of the Diseases of Women, should be somewhat exclusive and extravagant. Dr. Bennet frames his formula that ulceration and induration of the uterine cervix lie at the bottom of nearly all the diseases peculiar to the sex. Local cauterization will frequently remove these conditions — which he has been shrewd enough to confound in his writings, and therefore escharotics are specific. The generalization is the bait, the manipulation attracts, and the parade causes a premium to be placed on the operation. Forthwith his experiments and deductions are the text and the theory for an indiscriminate local treatment designed alike for all kinds of uterine affections and utero-visceral derangements.

Extravagant claims.

Sir Jas. Simpson incised the cervix as a remedy for obstructive dysmenorrhœa. Sims adapted his scissors as a uterotome, and improved upon the operation. The same operation was soon recommended for the cure of sterility, and retro-flexion of the uterus. Then it was applied to the relief of the intractable uterine hæmorrhage, and as a means of exploration and of facilitating excision in uterine fibroids. Now, in multitudes of cases, the uterine cervix is slit open, with every possible kind of result. The operation is a favorite one, for blood is shed, and there is some cutting in the dark, — which is always attractive in ratio with the risks that are taken.

Illustrations.

The various modifications and varied uses of the uterine speculum, the sound, the probe, the sponge and other tents, the exploring needle, the endoscope, and physical exploration by palpation, auscultation and percussion, have engaged the almost exclusive attention and confidence of uterine pathologists. Armed with these instruments, and *au fait* in using them for purposes of diagnosis and of treatment, it is not at all strange that they have come to place an almost exclusive reliance upon them, and that the claims of a coincident and conservative therapeutics should have been either overlooked or disregarded. They esteem the proposal to unite a course of medical with the surgical treatment of uterine ulceration, cervicitis, or endo-metritis, for example, as altogether superfluous — a species of superfœtation. When their resources are sufficient, and their work is substantially done, why propose to add anything, or to substitute it with what is less attractive,

Uterine therapeutics practically ignored.

flashy, seductive and sensational? For, with all our boasting, it remains that, in this class of diseases, the operation of the best chosen internal remedies, is not and cannot be instantaneous. The relief they bring in chronic uterine and ovarian affections especially, comes only "after many days." They do their work quietly, and without any of the *ad captandum eclat* of a surgical exploit, or a sanguinary battle from the possible effects of which the patient may never recover. It is an axiom in midwifery that, whether natural or induced, the most rapid cases of labor are not the safest. In uterine surgery the risks are in ratio with the boldness and dispatch of the operator, which qualities are almost inseparable from its employment.

It is equally obvious that the disproportionate development of uterine surgery is due to causes that can be explained, and which are avoidable. Let me call your attention to a few of them.

1. *The growing scepticism in the minds of specialists concerning the effects and efficacy of internal medication.* Providing he is educated and thoughtful, the pursuit of a medical specialty invariably inclines the physician to place less reliance, than does the general practitioner, upon constitutional treatment as a means of cure. The oculist and the aurist are not given to the common weakness of dosing their patients. Those who treat the diseases of the respiratory organs exclusively and most skillfully have more confidence in hygienic measures than in medicine. With every class of specialists, the higher the grade of their qualification, and the broader their field of observation, the lower their estimate of general treatment. For these men are sufficiently educated to discriminate and to differentiate. Their knowledge of physiology and of pathology assures them that, not only does every part suffer with the sick organ, or member, but that for the same reason, whatever lowers the general vitality will lessen the chances of recovery.

Scepticism respecting medication.

Uterine pathologists necessarily reach a similar conclusion. Unless their ideas of medicine, and of its capacity to cure, or to injure, are stereotyped and more or less antiquated, they gradually abandon the old therapeutics, and learn to place an increased trust in modern surgery, with its topical expedients and its manifold resources. The

Abandonment of old ideas.

cultivated gynæcologist of our day would as soon think of resorting to general blood-letting in hysteria, as to the use of emmenagogues in amenorrhœa. When Dr. Thomas counsels that the bowels shall be left in a constipated condition in endo-metritis, it implies not only that he has a clear idea of the indications that are presented for the cure of that disease, but also that, in proscribing cathartics, he is interested in removing a fertile source of mischief in uterine complaints.*

Without pausing to elaborate this idea, it must suffice to call your attention to the fact that the cultivation and practice of this specialty, as of every other, has had a two-fold result; (1) it has stimulated a development of a special branch of surgery: and (2) it has impaired the general confidence in wholesale medication for the cure of limited functional and organic disease.

2. *The natural preference which physicians, and their patients also, have for operative interference instead of internal treatment, whenever the former is possible.* As compared with the surgeon, the physician labors at a great disadvantage. And the reward of his skill and patience are often disproportionate to the time and care bestowed on the cure of intricate and dangerous diseases. Although they may be equally skillful, each in his own department, my friend the professor of surgery will most likely gain more *eclat* by cutting off a limb, or excising a tumor, than my colleague in the chair of theory and practice will from curing a case of cerebro-spinal meningitis, Bright's disease, or of angina pectoris. All of which implies that we involuntarily place a premium on the manual operation, while it is such an ordinary affair for the physician to tide his patient over his difficulties in a more quiet way, that but little relative stir is made concerning it.

Surgery more popular.

We do not criticize this propensity, although it has sometimes led to deplorable results. For it is impossible that such a large number of earnest and able workers should devote their lives to the study and practice of uterine surgery without bringing it to a certain degree of perfection. And the more popular, the larger the field of experience, the greater the number of those who are competent to

Therapeutics ought not to be neglected.

* A Practical Treatise on the Diseases of Women; by T. Gaillard Thomas, M. D. etc., etc., Philadelphia, 1872, page 227.

practice it, the older the study, the more thorough its literature, the greater, better and more lasting will be the benefits conferred by it upon the profession and upon the race.

But an evident result of this bias toward surgery is a neglect to cultivate and develop the curative sphere and relation of our remedies to the class of diseases under consideration. We study the special therapeutics of other ailments most carefully. It is not permissible to transfer them to the domain of a different branch of the healing art. Every species of clinical enquiry and analysis is entered upon and prosecuted with a view to the proper selection of the remedy or remedies. The symptoms are balanced, the signs are translated into a familiar language, everything is made available, medically, to effect a cure through the operation of the vital forces.

Study them.

If we could point to therapeutical results in gynæcology which compare with those of uterine surgery, results which were as carefully obtained, as accurate and trustworthy in every particular, as critically analyzed and as readily available, our usefulness would be doubled, and the little world in which we now work as specialists would consist of two hemispheres instead of one.

Why.

3. *The comparatively limited opportunities and skill of those who have labored especially to develop uterine therapeutics.* — The allurements to surgery, and its very general practice among physicians and specialists, diminishes the number of those who are laboring to define and determine the special therapeutics of uterine and kindred diseases. And the tendency of patients who are thus afflicted to estimate what is done for their relief and cure by the scale of suffering and risk at the hands of the doctor, lessens the number of those who are willing to trust and to wait for the results which might often be obtained by fitly-chosen remedies. Add to this that those of our physicians who are most competent to do this work are usually engaged in general practice, and it is really no reflection upon their popularity, or their ability, to say that one reason why uterine surgery has outstripped uterine therapeutics in the race, is because the opportunities and skill of those who practice the latter are comparatively limited.

Disadvantages of the specialist.

4. *The bias towards harsh and harmful remedies whenever internal means are employed.* — There is a current idea which holds that when the internal generative organs of the female are diseased, they require that stronger medicines should be given than in case of a similar disease which is seated in another organ or apparatus. This view is entertained by many who do not hesitate to acknowledge the wonderful delicacy of the nervous and vascular sympathies of the uterus and its appendages. And yet they insist that it is sometimes necessary to medicate these patients very thoroughly before any benefit can be derived from remedies that have been taken internally.

A great error.

The consequence is that, becoming disgusted with such treatment, or afraid of it, these patients put themselves in the care of such doctors as will not dose them at all, but who will rely exclusively upon other means of relief.

5. *The theory that constitutional treatment is destined altogether to supersede surgery in the management of these sexual disorders.*— Surgery is the complement of therapeutics as one hand is of the other, or the right eye of its fellow. To assume that it is possible in all respects to substitute, or to supersede the necessity for either of them. would be like limiting the obstetrician to the use of but one hand, or the microscopist to that of one eye exclusively, and denying them the privilege of using the other under all circumstances. The practical accoucheur is ambidextrous. And, if the microscopist uses but one eye at a time he alternates them. Each has its own sphere and function, and they must share the duty that is to be performed; for, although one may be preferable to the other, according to idiosyncrasy, habit, education or circumstance, still it remains that this dual arrangement is a part, and an indispensable part, of our organization as individuals.

Surgery and therapeutics.

The same is true of the curative relations of medicine and surgery. Both are requisite, each in its proper place, but which shall be the more prominent will depend upon the peculiarities, habits and education of the physician, and also, as we have shown, upon a variety of circumstances. To declare that either of them is superfluous, and to declaim against its employment, very naturally excites a pre-

Both essential.

judice against those who talk and act so unreasonably. It is a question of boundary lines merely, and since the whole field belongs to us, we can shift the fences from time to time and cultivate the crop of expedients that will prove to be most valuable and useful.

To compensate for this lack of interest in medicine as applied to the treatment of the diseases of women, it will be necessary,

1. *To have a series of new provings, on women, which shall be made with the greatest possible care and discrimination.*—The health of woman is beset by so many contingencies, and she is subject to such crises as to render it very difficult to find one who, both in herself and her surroundings, is suited to become a prover; and the physicians who are really competent to superintend such a proving are perhaps equally rare. For, if such an index to the remedial relations of a drug shall be trustworthy, it implies that the physician who undertakes this labor is fully conversant with the whole range of uterine pathology; that he has subjected his patient to the test of a most searching examination; eliminated all the symptoms which are naturally incident to menstruation, maternity, puberty, the climacteric, and also to her relations as wife and mother, to the church and to society, as well as to the distinctive susceptibilities that pertain to her sex, and which are so perplexing to all of us, and retained and classified only those symptoms which were unmistakably due to the action of the drug.

New provings by woman a necessity.

The fact that this labor has not already been perfected, and that it is a task of no small magnitude, should not deter those who hope for better things of uterine therapeutics, from its faithful and persistent prosecution. And I urge it upon you as members of this class to determine that you will add something to the common stock of knowledge on this subject, something tangible and available, something that will be of service to those who are suffering, and which will prove that the pains you have taken in the study of special pathology and therapeutics have not been lost either to yourselves or to the profession at large. For, suppose that we had a full and complete proving of calcarea carbonica, or of sepia, or of any other remedy, made with particular reference

Also, combined effort to increase our knowledge.

to the female organism, and under the eye of a skillful specialist, there is no question that its influence for good would outweigh that which attaches to the invention of a new instrument, even if that instrument were as useful as the uterine sound.

2. *The most painstaking study of the differential diagnosis of the diseases of the female generative system.*—This condition is requisite not only because it concerns the skillful treatment of these affections, but also because it bears a vital relation to gynæcological literature. If he keeps them to himself, the physician's short-comings are self-limited; but if he publishes his blunders, he perpetuates their remembrance and ensures their repetition. Therefore, he should know what he has done, as well as what he is doing.

Study diagnosis.

With all due respect to those who have directly and indirectly contributed to our knowledge of materia medica, as it is applied to the diseases of women, it must be confessed that their labors would have been more fruitful of good if they had been better versed in uterine pathology and diagnosis. The clinical history of hundreds of cases that have been reported confirms the truth of this remark, and shows the need of culture in this direction. If every woman who takes a drug with a view to its physiological effects, were carefully examined, both physically and otherwise, before, during and after making the "proving;" if she could be removed from all the vicissitudes which are certain to derange her sexual sympathies and to upset her health, the symptoms evolved and collected would be a better criterion of the range of action of the drug than we can otherwise obtain. And if every physician were fully posted in the matter of diagnosticating the contingent symptoms, or deviations from perfect health, which occur in most women (which are necessarily transient and self-limited), and such as are really pathological and persistent, those which do not get well of themselves, and are not often cured, as well as those caused by emotional states, independently of our remedies, the value of our clinical record would be increased a thousand fold.

Also pathology.

This opens an avenue for usefulness and distinction; for it is left for our school of practice to develop the *medical* side of this

question. We need such a chart of the remedial action, both pathogenetic and clinical, of medicines that are suited to the female organisms, as we do not at present possess. This is a *sine qua non*. It can not be obtained by the *exclusive* study of symptomatology after the old method, (1), because many of the resources of surgery are necessary as a means of determining whether or not the prover is in good health beforehand; (2), without these facilities, we could not know the variety, extent, nature or seat of the lesions present in a given case, whether they are functional or organic, and therefore our testimony concerning their cure could not be depended upon; and (3), it must be true of the tissues which compose the generative intestine, as it is of other textures, that they have their proper pathological and therapeutical, as well as their anatomical, physiological and surgical history and relations.

And pathogenesis.

And symptomatology.

FIG. 124. Archer's gynæcological chair.

THE GYNÆCOLOGICAL CHAIR OR TABLE.

Before we discuss the important operations in gynæcological

surgery, something more should be said of the chair, or table, upon which our patients are to be placed. After much experience I think that, for an office chair upon which all the minor operations and many others, including those for laceration of the cervix uteri, and of the perineum, and for vesico- and recto-vaginal fistulæ, the best is that made by George W. Archer, of Rochester, N. Y., and which is known as the Archer chair. (Fig. 124.)

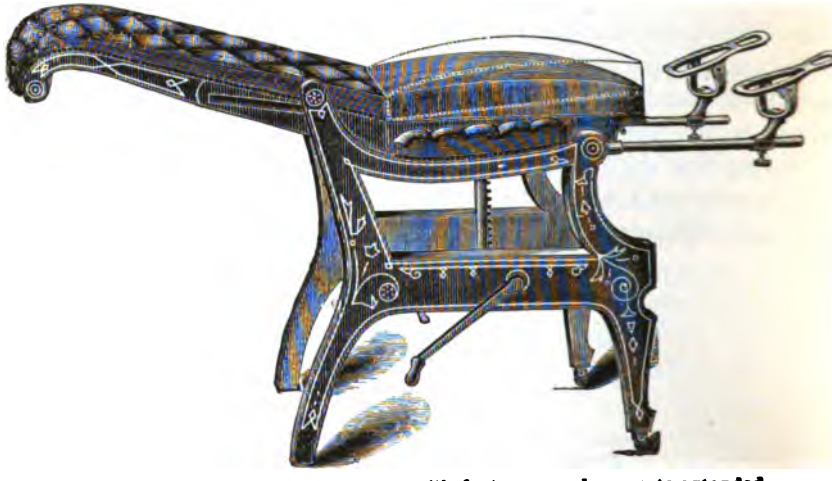


FIG. 125. The same chair in position, with foot-arms and supports extended.

The advantages of an adjustable chair which, if need be, can be converted into a table, are peculiar. With the class of patients that consult us, we must be careful not to offend the most delicate instincts, or to frighten them beforehand by the display of instruments, or of surgical accessories of any kind. If a woman comes into your office and sees an operating table already equipped, she will very naturally forbear to tell her whole story, lest it may be necessary for her to climb upon that table. The very idea of a table is repulsive. If she is a stranger, she will run away from you, and will perhaps never come again. But, if she can first be seated in a comfortable arm-chair like this, (Fig. 125), and after a little lifted quietly into the desired position, as if she were in a dentist's chair, the whole thing can be easily managed, her sensibilities will not be shocked, and all will be done decently and in order. And, when you are through with

the examination, the chair can be restored, and she will slip from it with a very different feeling from that with which she would dismount from a table.

As you see, this chair can be so shifted as to fill a variety of indications. Fig. 126 shows an arrangement by which the patient can be brought into the knee-elbow, or into Sims' position very readily. In operating upon a lacerated perineum especially, the parts can be brought so near to the edge of the bed, and are so accessible that the whole operation is greatly facilitated. In this regard this chair is decidedly superior to that shown in Fig. 10, and also to Chadwick's table. (Fig. 11.) The "wrinkle" by which the outer edge of the seat can be lifted a few inches, and the chair inclined is sometimes of very great advantage.

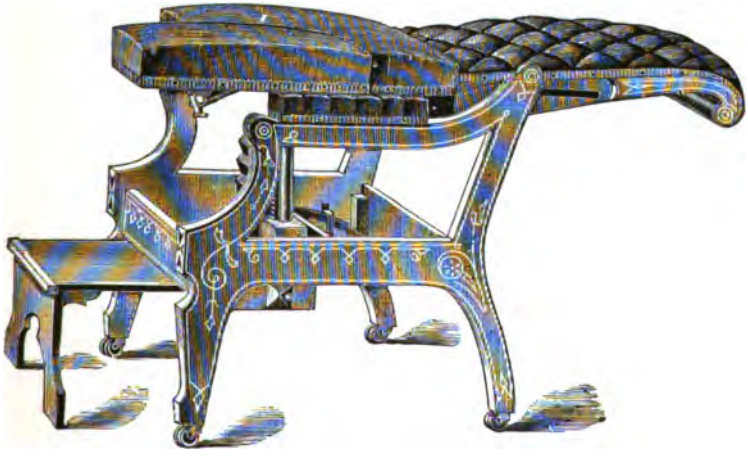


FIG 126. The same, with the seat extension to permit of the knee-chest, and of Sims' position, and also the step or platform.

When, however, we make these operations away from home, we must adapt ourselves to circumstances, and extemporize a suitable couch or table upon which the patient may rest. An extension table may be so shortened as to answer the purpose very well, or in lieu of it, you may use a common dining table, which is not too large, and which stands firmly upon its legs. In case you are frequently called upon to practice ovariotomy, perineorrhaphy, or any of the major operations in gynæcological surgery, it might be best to have such a table as you have seen used in my sub-clinic.

VAGINISMUS.

Case.—Mrs. ——, aged 20, cousulted me six months after her marriage for the relief of a forced continence which was extremely painful, and which made her morally wretched. The condition which she described very clearly, and which was confirmed by a local examination of the parts, was that of a spasm of the vulvo-vaginal orifice, which was induced by the slightest touch, and which spasm was sufficient to prevent the introduction even of my little finger into the vagina. The general health of my patient was good, and her menstruation normal, but she was very nervous and apprehensive, more especially on her husband's account. She was anxious to have the difficulty cured, not only because he was very kind to her, but also because she wished if possible to become a mother.

The treatment adopted in this case consisted in the internal use of belladonna 3, three times daily, and in the gradual dilatation of the vagina, twice in each week. The dilatation was effected by an anal speculum, such as I hold in my hand (Fig. 127). This instrument was chosen because it was slender, could be easily anointed with cosmoline, and insinuated, and afterwards could be expanded gradually and held in position by the screw. She was a plucky little woman, and anæsthetics were not necessary. In six weeks she became pregnant. I afterwards delivered her with the forceps of a nine-pound boy, who is now the jolliest little fellow in my parish.

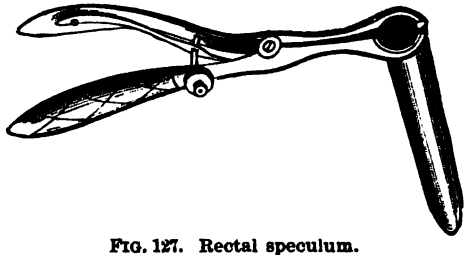


FIG. 127. Rectal speculum.

Case.—Mrs. N——, twenty-three years of age, married, has been out of health from the time her menses made their appearance, which was while she was at school, in her fourteenth year. She had all the usual symptoms of neuralgic or spasmodic dysmenorrhœa with each monthly return The flow, after the first day, was quite free, and it usually continued about a week. She was married at eighteen, five years ago. Soon after this the dysmenorrhœa ceased, and the "period" has been quite easy and natural until now. She has never borne any children, nor ever had a miscarriage. She menstruated as usual last week. A slight and temporary leucorrhœa sometimes succeeds the catamenial flow.

She complains of great fatigue on slight exertion. This is

especially marked at intervals, which intervals have no known relation to the monthly cycle. At other times she is as active and vigorous, and can walk or ride as far as any one almost. There is a good deal of pain and soreness along the superior portion of the spinal column, extending from the upper cervical to the last dorsal vertebra. Sitting, standing, and writing increase this pain and aching, which do not appear to be influenced by exposure to changes of weather. Sometimes she says there is a burning sensation along this portion of the spine, and again the burning is referred to the region of the left ovary. Occasionally the pain leaves the back and goes to that ovary. While it remains there, the left iliac region becomes tender to the touch, and she involuntarily retracts, or flexes the thigh upon the abdomen.

Her chief complaint is of pain and extreme tenderness at the ostium vaginæ. This orifice is so sensitive, and the slightest contact is so very painful, as to render marital intercourse almost impossible. For more than four years she has consented to it only a very few times, and then has suffered an indescribable martyrdom.

Physical examination finds the parts quite normal, excepting that just within the vaginal orifice, there is great tenderness to the touch, and the moment that the finger comes into contact with the marginal remains of the hymen, there is an immediate spasm of the muscular coat of the vagina, which causes extreme narrowness of that canal, and prevents its admission without considerable force. The superior portion of the vagina is flaccid and capacious enough. The uterus is in its proper place, and does not appear to be changed in any respect. The bladder and the rectum are healthy.

This complaint is a very painful one, and one from which women sometimes suffer in silence for years together without the courage to consult a physician for its relief. I believe that, in its milder forms, it is more frequent than is generally supposed. It may occur in the virgin, or in the case of those who are married, but not in those who have ever had a child or children.

The symptoms are similar to those which our patient has detailed. There is almost always spinal tenderness, soreness, and lameness, which are generally located between the shoulders and along the cervical portion of the spine. Sometimes, however, it is lower down the spinal column, and is described as a weakness of the back and hips. The soreness or weakness is paroxysmal, and is aggravated by

Symptoms.

exercise, but more especially by sexual excitement. In its recurrence it is very apt to alternate with ovarian pain, burning and irritation. A hysterical cough, aphonia, headache, or a tendency to general spasms, are not unfrequent accompaniments of this spinal irritation. Spasmodic dysmenorrhœa and strangury often complicate the case, and cause additional suffering. (*Exit the patient.*)

Local hyperæsthesia.

But the peculiar and distinctive symptom of vaginismus is the hyperæsthesia of the vulva and of the outer extremity of the vagina, which is so very sensitive that even the slightest touch causes a spasm of the sphincter vaginæ, and a closure of that canal. The closure may also extend to the sphincter ani. The location and extent of this sensitive surface varies in different subjects. In virgins, it may be limited to the outer face of the hymen, which membrane, in these cases, is thicker and more firmly organized than usual. In those married women in whom the hymen has been ruptured, the tenderness is frequently most marked somewhere along the marginal remains and attachments of this membrane. The carunculæ myrtiformes may be exquisitely sensitive. In many cases the most tender point is upon the side of, or near to the meatus urinarius. In others, it is about the orifice of the vulvo-vaginal gland, and sometimes at the fourchette.

In this condition the contact of the finger, or even of a camel's hair brush, or of a feather, may cause the greatest agony, and perhaps throw the patient into convulsions. Coitus is impossible, and you can not introduce the smallest speculum without almost killing her; indeed, in some cases that I have treated, the vaginal orifice was so closely and tightly constricted that I could not pass my little finger, or even a female catheter, into the vagina without exercising undue force. The sexual act being more or less completely performed, the suffering finally becomes so great that the parties are forced to desist, and most of these patients confess either that they have altogether relinquished the attempt and concluded to live apart, or, as they sometimes do, as brother and sister; or that it is undertaken only at long intervals. Usually such women remain childless. It has happened, however, that even under these embarrassing circumstances, conception has

taken place, and gestation and parturition have cured the case spontaneously.

If these symptoms continue for years, and the patient is subjected to all the mental worry that is their indirect consequence, and to the contingent diseases which such a state of the nervous system is almost certain to induce, her general health will finally become impaired, and she will pass into a state of decline. She will become prematurely old, emaciated, dyspeptic, hypochondriacal, and a wretched "nervous wreck." The worst results may happen to her household and family. She is very apt to conclude, and may even be told by her physician, that she has an incurable disease of the womb. Her husband is likely to become estranged, and her married life to prove a disastrous failure.

Causes.

This disease is frequently complicated, either as cause or effect, with spasmodic dysmenorrhœa. Sometimes it arises from a pruritus of the vulva, which is due to vulvar eruptions. Or it may be caused by caruncles of the meatus urinarius, vulvar folliculitis, vesical, urethral or rectal tenesmus, hæmorrhoids, fissures of the anus, or of the vulva, vaginitis, uterine displacements, an irritable uterus, nodular neuromata of the vagina or vulva, or by the contact of acrid discharges in utero-vaginal leucorrhœa.

The most cultivated and gifted women, those of a high moral or emotional nature, are most subject to this affection. This is especially true of such of them as inherit the hysterical disposition, and who are liable to the different forms of spinal irritation. All this large class of women are exceedingly prone to be mismated, and to suffer from personal antagonisms which jar their sensibilities and derange the sexual sphere. Thus it may happen that a delicate, sensitive, impressible woman, who, if she were properly mated, would be exceedingly happy and contented, is tied to one whose brutal approaches become more and more loathsome and repulsive, until finally this morbid sensibility which ruins her health and happiness is developed. I have seen one case of the kind which really was more painful to witness than anything beside that has ever occurred in my professional experience. There are no toxical influences which are so difficult to antidote as those which arise from sexual incompatibility.

You need have no difficulty in establishing the diagnosis. First

examine the patient by means of the "touch." If she is extremely nervous and apprehensive, shakes like one in a fit of ague, and is almost or quite convulsed the moment the vulva is touched; if there is a manifest spasm of the sphincter and the constrictor muscles of the vagina, so that the finger cannot pass into the canal without causing her more or less agony, you had better desist, and proceed to put her under the influence of an anæsthetic. A few whiffs of ether, or of chloroform, will quiet her apprehension, overcome her opposition, allay the super-sensitiveness of the vulvar mucous membrane, and more than all relax the spasm so that the finger, or speculum, will enter quite readily.

Diagnosis.

Dr. Sims has given us the differential points in vaginismus in one of his laconic sentences: "The supersensitiveness is diagnostic; the spasm pathognomonic."*

The prognosis is generally conceded to be favorable. If, however, the disease is the result of a profound lesion of the nervous centers, as sometimes, although very rarely, happens, it is not likely to be radically cured. Something depends also upon the duration of the disease and the serious inroads it has made upon the general health. But, in almost every case of vaginismus, you will expect to cure your patient, providing your instructions are carried out, and she has the patience to wait for the result.

Treatment.—The treatment is both medical and surgical. The remedies most frequently indicated are those which are suited to the relief and cure of the intercurrent disorders, more especially of menstruation, innervation, and digestion, and to the pain and suffering in the bladder, the urethra and the rectum. These should be carefully chosen and affiliated. I am not aware that any of them hold an especial curative relation to the vaginismus separately considered; nor is there on record a well authenticated cure of this disease by the use of internal remedies alone. Belladonna, atropine, thuja, macrotin, sepia, cocculus, conium, platina, nux vomica, pulsatilla, hyoscyamus, ignatia, and mercurius, include those which are more likely to be indicated than any others. If necessary, (and it often is,) either of them can be given in conjunction with the surgical treatment.

Medical treatment.

*Clinical Notes on Uterine Surgery, by J. Marion Sims, M.D., etc., etc. New York, 1866, p. 320.

As usual in gynæcological questions, authorities are divided on the question of employing the knife for the radical cure of vaginismus. My own opinion, based upon the successful treatment of numerous cases, is that, unless there is some especial reason why the cure should be speedy, it is best to try the milder means first. This is especially true of cases which are not very severe.

Surgical treatment.

One of the means designed to overcome this disposition to spasm of the vaginal muscular fibre is the dilatation of the canal, or rather of its constricted portion, by graduated bougies. An ordinary rectal bougie may be cut in two, and one half anointed with simple cerate, glycerine, olive oil, or with an ointment consisting of the extract of belladonna, one part, and lard or simple cerate, six parts. This may be very carefully introduced and allowed to remain, according to circumstances, for a period varying from a few minutes to an hour or more, when it should be withdrawn. Of course the patient should keep the horizontal posture meanwhile. You may be obliged to commence with a very small instrument of this kind, but gradually the larger ones can be used, and their presence will be tolerated so that they will no longer occasion pain. The patient can soon be taught to introduce and to remove them herself. After a time, with proper diet, remedies and regulation of the habits in every respect, you will find that it is possible to pass the largest size of the rectal bougie without suffering, and that the case is practically cured. The complete interdiction of coitus while this dilatation is being effected, is a condition of the cure.

Dilatation.

Case. — March, 1862, Mrs. —— consulted with me for the relief of an irritable and sensitive condition of the vagina which, during her three years of married life, had caused her untold suffering, and interfered most positively with sexual congress. She was a most intelligent person, frank and candid in her manner, and extremely anxious that something should be done for her relief, more especially lest her husband should become disaffected, and her family and friends continue to ridicule her for never having become a mother.

On physical examination there was nothing abnormal about the external generative organs, except the hyperæsthesia of the vulva and of the vaginal outlet. The slightest and most delicate touch with the finger caused the vaginal spasm immediately, and she

was thrown into the same state of suffering which she said she had always experienced in the conjugal act. I placed her under the influence of sulphuric ether by inhalation, and these symptoms disappeared. The dilatation with bougies anointed with the belladonna and simple cerate, was begun and continued every two days for a fortnight, then every day for another week, and the barrier to intercourse was removed. She soon conceived, and now has a son, a beautiful boy, nine years old. I gave her no medicine.

In most cases to which this plan of dilatation is equally well adapted, the cure will not be so speedily effected. It generally requires about two months, sometimes a little more, and sometimes less, to accomplish the desired result. If you prefer, you can make use of a series of conical glass dilators, such as I hold in my hand, instead of the bougies. These were invented by Dr. Sims, and answer a very good purpose. The warm bath and electricity are useful auxiliaries to this treatment, in which I have great confidence. Scanzoni treated one hundred cases of vaginismus by a very similar plan and cured them all without recourse to the knife.

A very few cases are reported to have been cured by excision of the irritable tumor which is sometimes found at the mouth of the urethra. Others have been remedied by the removal of the vaginal neuromata, the cure of vaginitis, fissures of the parts, and such diseases as could be more easily reached and removed by local and general treatment.

Excision of irritable tumors.

Dr. Tilt recommends to effect the forcible dilatation of the constrictor muscles of the vagina in the same manner as your professor of surgery, only a few days since, overcame a spasm of the sphincter ani in a patient which he had before you. Having anæsthetized the woman, he introduces both of his thumbs with their backs toward each other, into the vaginal orifice, and then stretches it firmly and forcibly for the space of five or six minutes. After this a plug, or dilator, is introduced and kept in position for several days by a T bandage. This mode of treatment, however, is not applicable, while there is any coincident or remaining uterine or vaginal disease.

Dr. Tilt's operation.

Dr. Sims practices deep incisions on the right and left side of the mesial line of the vagina posteriorly. The patient should be placed upon the back, and brought thoroughly under the influence

of ether or chloroform. With a pair of curved scissors remove the remains of the hymen. In order to separate the labia laterally, to open the canal as wide as possible, and to draw the fourchette very tense, the index and middle fingers of the left hand are to be passed into the vagina. Then with a common scalpel you make an incision through the vaginal tissue, a little to the right side, bringing it from above downwards, to the raphe of the perineum, thus making one side of a V; then insert the knife on the left side and cut obliquely toward the other incision, so as to join it at the raphe. Follow along through the raphe itself until the cut is Y-shaped. Thus the incision will pass across the sphincter vagina for about half an inch, but not through it, and, in all will be nearly two inches in length, varying in different subjects according to the development of tissue in each.

Dr. Sims' operation.

If there is considerable hæmorrhage, pressure, the local application of ice or of the per-sulphate of iron will arrest it. If the flow of blood is free, but not excessive, the dilator may be introduced immediately, and the pressure which it exerts will serve to

FIG. 128. Sims' Vaginal Dilator.

arrest it. Usually the dilator is not applied until twenty-four hours after the operation, when it is kept *in situ* by an appropriate bandage, after which it is worn "for two hours in the morning and two or three hours in the evening, according to the tolerance of the patient." Dr. Sims says: "I have been often astonished at the rapidity with which the cuts heal, the process being seemingly facilitated by the pressure of the glass dilator, which is to be worn daily for two or three hours, or until the parts being entirely cured, and all sensitiveness removed, the patient may be pronounced competent to fulfill comfortably and pleasantly the duty of a wife."*

*Bulletin of the N. Y. Academy of Medicine, Vol. I, p. 434.

In brief, therefore, Sims' operation is preferred to that of Burns', which consisted in dividing the pudic nerve. Some very interesting cases cured by Sims' method have been reported by Drs. H. B. Clarke, T. G. Comstock, W. Tod Helmuth and others. You will find a suggestive report on this subject by one of our former pupils, Dr. W. A. Burr, of Nebraska, in the current issue of the *United States Medical and Surgical Journal*.†

Another expedient.

In some of my cases, where the remains of the hymen have constituted the focal point of the hyperæsthesia, I have removed them with curved scissors and then finished the cure by means of dilatation and without any incision. This treatment will be followed in the case which you saw a few moments ago.

Local anæsthesia.

Attacks of vaginismus that are incidental and transient in their duration may be relieved by a more simple but equally useful expedient. A mixture consisting of chloroform, one drachm, and olive oil and glycerine, each one ounce, may be applied by means of a cotton tampon, providing the spasm of the vagina does not prevent its introduction into that canal. In that case it may be thrown into the rectum, when the spasm will very soon cease. Afterwards the proper medical and hygienic treatment can be resorted to for the radical cure of the conditions, or diseases, upon which these paroxysms are contingent.

†Volume VII, page 367.

LECTURE LII.

LACERATION OF THE CERVIX UTERI.

Laceration of the uterine cervix. Discovery and description of. Clinical history. Causes. Symptoms, subjective and objective. Varieties. Cervical ectropium. Follicular degeneration. Cicatrization. Diagnosis. Complications. Laceration with sub-involution, epithelioma, peri-metritis, and sterility. Prognosis. Treatment, preventive, preparatory and operative. Trachelorrhaphy. The after-treatment.

Your clinical advantages would fail of improvement if we did not find time to consider the subject of laceration of the cervix uteri. And my course upon gynæcology would be very imperfect without a practical talk upon this very important lesion. The discovery of the frequency of these lacerations, of their significance as a source of chronic uterine disease, and the development of a proper and successful plan of treatment for them, is of recent origin. In 1868 Dr. M. A. Pallen, of St. Louis, and in 1869 Dr. Thomas Addis Emmet, of New York, were the first to publish their experience, and to draw the attention of the profession to this very important subject.

Discovery and description of.

Clinical history.—You are aware that certain lacerations of the soft parts, as for example, of the fourchette, and of the vaginal mucous membrane, are incident to labor, for you have studied their relation to puerperal sepsis and pyæmia in our puerperal wards. Fissures in the mucous membrane, and fistulæ of the septa between the vagina and the rectum, and between the vagina and the bladder, as well as rupture of the perineum, are sequelæ of childbirth that are pretty thoroughly understood and managed by the skilful gynæcologist. But the lesions of the cervix which take the form of lacerations are, it seems, quite as frequent and as serious in their consequences.

Puerperal lacerations.

Two things are illustrated by the discovery that these wounds of the cervix underlie and complicate many of the diseases of women: (1) the tendency to exclusive, one-sided, routine ideas in uterine pathology, and (2) the possibility of overlooking

what would certainly be seen, if we were more careful and less prejudiced.

If the profession had not accepted the dogmas of Dr. Bennet concerning induration and ulceration of the cervix as the essential factor in the diseases of women, and practised accordingly, it would have been impossible that the speculum could have been used for twenty-five years without recognizing the frequency and importance of these lacerations. If the displacement theory had not substituted the question of uterine statics for the exercise of a little good sense and discrimination, these lesions of the cervix would have been sought for long ago, and no one would have made himself ridiculous by proposing to cure them by means of an abdominal supporter, or a harness of any description.

Mischievous effects of dogmatism.

The world moves, and this time at least, the women get the benefit of it. If his followers do not run to the other extreme and mutilate the cervix to make out a case, or multiply these lacerations without limit, Dr. Emmet's innovation will prove a blessing to all concerned.

Causes.—The clinical history of cervical lacerations almost always dates from labor, either an abortion, or at term. When you find a rent which has changed the form and the extent of the os uteri you may be confident that something has been extruded through the cervical canal. The delivery of a polypus, a fibroid, a cluster of so-called hydatids, the decidua-menstrualis, or even of clots during menstruation may produce this effect. But, as with a rupture of the fourchette, this form of laceration is most frequent in case of primiparæ.

It is a contingent of a premature discharge of the liquor amnii, and of delivery, before the cervix is properly expanded; of too rapid labors; of tedious labors from malpresentations; of the traumatism of an impracticable delivery; of the resort to version, whether podalic or cephalic; and of instrumental delivery with the forceps, the blunt hook, or by craniotomy. It is sometimes due to the forcible dilatation of the cervix during labor in cases in which there is a cancerous infiltration of the tissues, or where there are cicatrices that have resulted from incisions, and from excessive cauterization of the neck of the womb.

Symptoms.—If there were any subjective symptoms by which

a laceration of the cervix could be known, its clinical history would have been written long ago, and a great deal of mischievous treatment might have been averted. But while there are no such signs of this lesion, there are symptoms which suggest it, and which render it very probable. Cervical laceration is so often associated with subinvolution of the uterus that the most prominent symptoms of chronic metritis are seldom lacking. This, you know, includes increased weight of the organ, prolapsus, menorrhagia, uterine leucorrhœa, intra-pelvic and sacral pain and distress, and an inability to stand or to walk about. In some cases there is a form of neuralgia of the neck of the womb, and of the neighboring parts which creates an intolerance of coitus, and which may even simulate vaginismus. Headache, lassitude, neurasthenia, melancholy, and a kind of hopeless invalidism are almost always present in chronic cases.

Subjective symptoms.

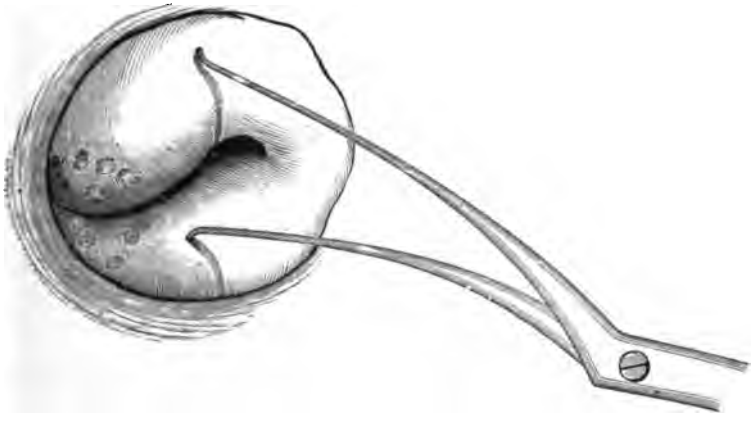


FIG. 129. Unilateral laceration separated by a double tenaculum (Emmet).

The objective symptoms will vary with the kind and extent of the laceration itself; the consequent deformity of the cervix; the ectropium or the eversion of its lining membrane; the hyperplasia; and the cystic degeneration of its follicles; the friction of the parts against contiguous surfaces, and the partial cicatrization of the wound, as well as the effects of repeated labors and abortions.

Objective symptoms.

There are three varieties, of cervical lacerations; (1) the unilateral, (2) the bilateral, and (3) the multiple or stellate. These beautiful drawings will give you an excellent idea of them. (See Figs. 129, 130, 131.) The charts also represent the enlarged Nabothian follicles, which are almost always present in these cases.

Varieties.

FIG. 130. Stellate laceration of the cervix (Emmet).

The extent of the laceration varies. Sometimes it is so slight a nick, and so superficial as scarcely to be noticed, and it may even be limited to the mucous membrane of the cervical canal without passing through the external os. In this case it is called a fissured, or

The degree of the laceration.

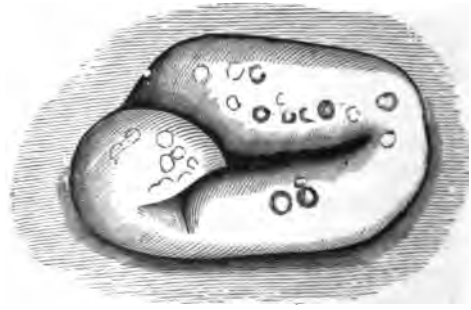


FIG. 131. Bifid laceration of the cervix (Emmet).

partial laceration, and is apt to be accompanied by endo-cervicitis with a trivial ectropium. Again the lacerations are deep enough

to extend through the whole length of the vaginal cervix in which case the anterior and posterior lips will be turned outwards.

In the puerperal uterus the lacerations often occur in the antero-posterior direction, through one or both lips, but because

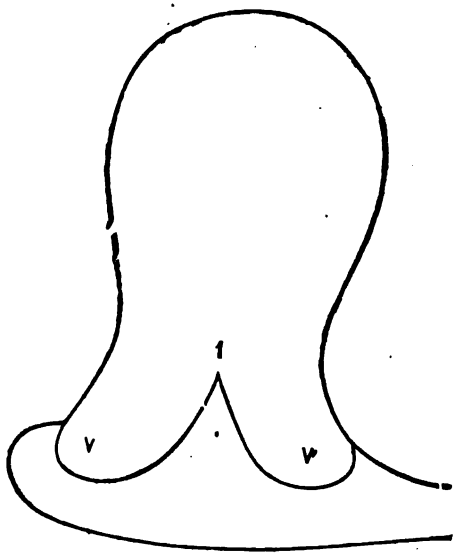


FIG. 132. The margins of a recently-lacerated cervix.

the position of the lying-in patient keeps the rent closed, a spontaneous cure is the result, and we seldom meet with these cases outside of the lying-in. Before they come into our hands they are already cured.

Cervical ectropium.

The eversion of the cervical endometrium, which is extruded like a hæmorrhoidal tumor, is not always in ratio with the extent of the laceration. If the rent is very large the hyperplasia of the cervix may be such as to prevent the rolling out of its lining membrane; while, even if the wound is small and there is little or no hyperplasia, the eversion may be comparatively large. It is the chafing and erosion of this extruded mass which induces the granular, elevated, bleeding, and profusely secreting surface that is generally supposed to be ulcerated.

The cystic degeneration of the follicles of Naboth was once regarded as a fair sign of chronic metritis; and I have often

known it to be mistaken for acne and other forms of eruption upon the cervix uteri. When these follicles become hypertrophied and drop through the external os, they sometimes develop into vascular polypi.

Follicular degeneration.

Lacerations of the cervix that are chronic, and not fresh or recent, are apt to be partially or wholly cicatrized, in which case if the lesion is extensive the touch may incline you to think of cancerous infiltration or

Cicatrization.

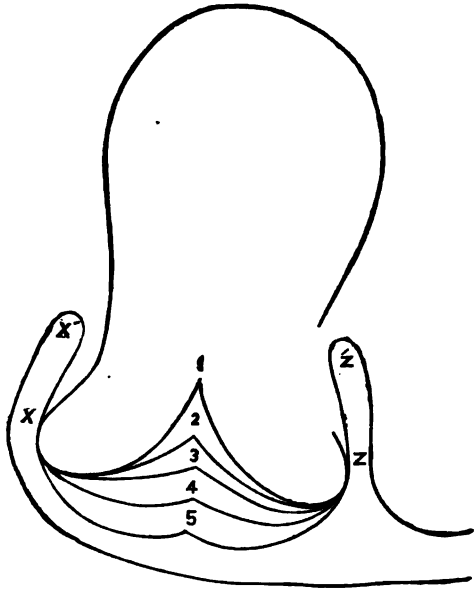


FIG. 133. The false cervix composed of reflected vaginal tissue and everted intra-uterine tissue.

deformity, or perhaps of phagadenic ulceration with a scirrhous margin. These ununited lacerations are sometimes very deceptive, because if neglected, they may tend to the production of epithelioma, or of cervical or corporeal fungosities of a suspicious character.

Repeated, or rapid childbearing is sometimes followed by the worst forms of cervical laceration, the lesion being increased with each succeeding labor. And recurrent abortion, especially if it has been criminally induced, may have a similar effect.

In multiparæ.

Diagnosis.—Unless you drag the womb to the vulva and examine the cervix without a speculum, which would be cruel in most cases, you will not have a correct and satisfactory idea of the cervical laceration, without a resort to Sims' speculum. When the perineum is fully retracted, and the depressor has carried away the anterior vaginal wall, the cervix will be more fully exposed than if you used a cylindrical or a bladed instrument. My friend, Prof. Comstock, prefers Erich's speculum, which is also a retractor, and is self-retaining.

Inspection of the cervix.

But the mere inspection of the cervix uteri will not tell the whole story, else it would have been written long ago. For, strange as it may appear, these rents were seen many thousand times before their clinical significance was interpreted by Dr. Emmet. If you look over my collection of colored drawings showing the varieties ot ulceration of the os uteri, as they are delineated by our best authors, you will find that in almost every case you have a picture of some form of laceration of the cervix. Turn to your books, and, if you except the corroding and other forms of malignant ulceration, you will observe that almost every cut which is designed to illustrate a case of ulceration of the os really gives you a sample of cervical laceration. It seems incredible that men who had devoted their lives to a specialty should have been so insufferably stupid, and that their preconceived ideas should have had such a blinding influence upon their faculty for observation.

A singular fact in regard to.

Having exposed the cervix as already directed, the two lips may be seized with a double tenaculum (Fig. 134) and the edges of the rent so separated as to enable you to form an idea of the length, direction, and depth of the laceration. (Fig. 132). Or you may seize each lip of the cervix with a separate tenaculum and draw the margins of the wound together, when the form and outline of the normal cervix will be apparent. It is possible, however, that the ectropium and the hyperplasia may prevent the rigid application of this test. If you can close the lips of the wound so as to conceal the eroded mucous membrane, and to cover up the granular ulceration, the diagnosis is plain enough.

Examination of the rent.

The certain test.

Complications.—From what has already been said you will infer that except in the puerperal uterus, a laceration of the cervix is

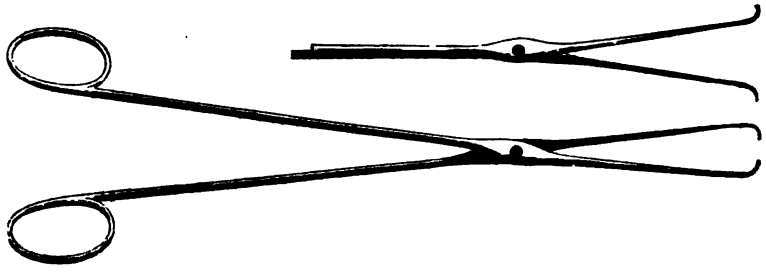


FIG. 134. A double uterine tenaculum.

always complicated with other uterine affections. The most frequent of these coincident disorders is a form of abrasion, or erosion of the mucous membrane which is apt to be regarded as granular or follicular ulceration. After this is the hyperplasia, or benign hypertrophy of the cervix, which was treated by Bennet and his followers as an induration of the cervix. The cystic degeneration of the follicles of Naboth, which has often been described as an eruptive disorder, with a shot-like feel and a tendency to the development of vesicles and of pustules, is seldom lacking in confirmed cases of laceration of the cervix.

Subinvolution and laceration.

Another form of uterine disease that often depends upon a laceration of the cervix is subinvolution, with its accompanying menorrhagia, prolapsus, or other displacement, uterine catarrh, dyspareunia, and intra-pelvic pain and distress. In a former lecture (Lecture XXII.,) I have discussed this subject very thoroughly.

Epithelioma and laceration.

When speaking of epithelioma of the cervix (Lecture XLIII.,) I directed your attention to the theory, that the abrasion and friction of the cervical endometrium, when it had been extruded through a lacerated os, was a fruitful source of cancer of the neck of the womb. It is not at all improbable that the great comparative frequency of cancer in the glandular portion of the cervix uteri is due to these avoidable conditions, and that when we are better able to recognize and to remedy these lacerations, it will be less frequently met with.

Some cases of laceration of the cervix are badly complicated

with pelvic abscess and with pelvic peritonitis. In the former, the real obstacle in the way of cure is the scrofulous diathesis; while in the latter, the menstrual return is a relapsing factor which is very difficult to overcome.

Peri-metritis and laceration.

Many cases of sterility are traceable to a forced abortion which has resulted in laceration of the cervix. As long ago as 1856 the late, and lamented Dr. A. K. Gardner, of New York, wrote as follows:*

Sterility and laceration.

"Among the married, lacerations of the os and cervix in a first confinement are not unfrequently followed by subsequent barrenness. The accompanying symptoms being those of dysmenorrhœa, and the severest forms of uterine disease, profuse leucorrhœa, etc. Examination shows immense hypertrophy (in some cases the enlarged os becoming too voluminous to be entirely displayed at one view by a four-bladed speculum); the fissures often two or three in number, extending an inch or two through the neck towards the body of the uterus, their edges uncicatrized, the whole observable organ highly injected, and the entire apparatus bathed in a profuse and often fetid muco-purulent discharge."

Prognosis.—With proper precautions in the way of preparation, of freshening the surfaces, of careful adjustment, and of the after-treatment, the great majority of cases are curable by a single operation. In a few the operations will need to be repeated once or twice; and in fewer still it will fail altogether. Fresh cases, if they are not too near the lying-in, will recover more readily than older ones. The larger the amount of cicatricial tissue, or the more fungoid and irritable the granulations, the more difficult and unpromising the case. If the everted mucous membrane has taken on what is known as the cock's-comb ulceration, or if there is something of the cauliflower excrescence, the prognosis should be carefully qualified. Indeed, in the latter case it would be a question whether the operation would be expedient or advisable.

Treatment.—As you will soon be engaged in the general practice of your profession, it will be in your power to do a great deal for the prevention of this troublesome infirmity. In this connection Dr. Comstock's remarks are very appropriate:

Prophylaxis of

* The Causes and Curative Treatment of Sterility, etc., by Augustus K. Gardner, A. M., M. D., p. 96.

"The practice of obstetrics has been greatly simplified during the past twenty years, and corresponding with the improvements in the art, after-lesions are much less frequent now than formerly. The enlightened practitioners of this day have learned two or three lessons in obstetrics. (1). In natural labors not to interfere or rupture the membranes at too early a stage. (2). In breech presentations, to preserve the bag of waters as long as possible, and by no means to interfere until after the expulsion of the breech. (3). In protracted labors to shorten them by the timely application of the forceps. (4). In the third stage of labor, not to be in a hurry to extract the placenta, but during the delivery of the child to apply the hand over the womb and to keep it there, exercising a gentle but rather firm pressure, assisting the womb to contract, in other words, resorting to a *vis a tergo*, and only in very exceptional cases making traction upon the cord, *vis a fronte*, so that the placenta is expelled by nature and we thereby have a complete contraction of the womb, and consequently normal involution follows."

The preventive treatment of cervical lacerations includes the proper care of the puerperal as well as of the parturient woman. For, if you are careful to keep the lying-in patient in bed for a sufficient length of time, to surround her with suitable hygienic conditions, to supply her with good food and fresh air, and to wash the vagina and the vaginal cervix with calendula water and glycerine, the fissures and lacerations may often be cured before the woman comes into the hands of the gynæcologist. As I have already said, lacerations through the fore-lip or the hind-lip, in an antero-posterior direction are more likely to heal spontaneously in child-bed than are those which are lateral.

The preparatory treatment is very important. If there is a considerable degree of circum-uterine inflammation in the form of cellulitis or of peritonitis, the operation should be deferred until the more serious effects of those lesions are disposed of. You have seen several cases of this kind in my sub-clinic. Under these circumstances, as well as for the relief of the engorgement of the cervix, and of the hyperplasia, you may try the effect of vaginal irrigation of hot water. An injection of a gallon or more may be thrown into the vagina once or twice daily for a week or more, and while the patient is taking internal remedies. The tumefaction and tenderness, as well as the congestion and the deformity of the cervix may sometimes be gotten rid of by puncturing the hypertrophied

The preparatory treatment.

follicles and allowing their contents to escape. Extensive abrasions of the everted mucous membrane may be soothed and healed temporarily by the application of a mixture of cosmoline or vaseline and the muriate of hydrastin, or by the local use of glycerine and calendula.

The proper subjects for operation.

Bearing in mind that there is in certain women a kind of tolerance of lesions of the soft parts arising from the traumatism of labor, and which in those who are differently constituted, will induce ill health and chronic invalidism; you must select your cases for operation accordingly. It is not every case in which an extensive rent in the uterine cervix will offer the strongest plea for surgical relief. The number of labors at term, or prematurely, that the patient may have had, more especially if they have taken place either very rapidly or at long intervals, will make the operation more imperative. A mere rent in the cervix is not necessarily a cause of disease, and while first labors often give rise to serious mischief, it may happen that a young mother shall escape the penalty altogether until she has been through other and subsequent deliveries.

Caution.

You would not perform Emmet's operation in one who is the subject of chronic pelvic cellulitis, or peritonitis, acute metritis, salpingitis or ovaritis; in one who has had a menstrual hematocele, chronic retroversion, an abdominal tumor, cauliflower excrescence, or any form of malignant disease, neither during pregnancy nor puerperality. Rembering what Verneuil has said of the failure of plastic operations in diabetic subjects, if there is any sign of a morbid cachexia the urine should be tested for sugar before the operation is made. The indications for hystero-trachelorrhaphy should not be exaggerated, or unduly magnified, as has too often been done.

The best time for operating.

The proper time for operating is within the week following the monthly period. If the interval is normal this will afford sufficient time for the wound to heal before the flow returns. In case the menses are too frequent it is better to operate directly after the period. When the operation is made upon one who has not menstruated for several months as, for example, during lactation, a very common result of the operation is to restore the flow, and sometimes even to induce a menorrhagia.

A precaution.

Women naturally suppose that so serious a thing as a surgical operation will put a sure and speedy end to their suffering, and unless you explain beforehand that the good which is to follow in their case is likely to be gradual, they will be disappointed and you will be blamed. For it is not reasonable to promise that a train of morbid symptoms which have been developing for months, or for years, will be entirely disposed of so soon as the wound has healed. The fact is that the improvement will be slow and almost imperceptible at first, and even months may pass before the patient will fully realize the benefits of the operation.

EMMET'S OPERATION, OR HYSTERO-TRACHELORRHAPHY.

The patient should be placed upon a short, firm table, rather than upon an operating chair. The table should be dressed with a pad covered with rubber cloth. The anæsthetic should be

FIG. 135a. One-half of Comstock's gynæpods in position.

administered by a responsible physician, whose business it is to attend to that and to nothing else. You will need a plentiful supply of hot water; a few small and very clean sponges; a Sims' speculum and retractor; tenaculæ; scissors that are curved on the flat and sharp-pointed, a scalpel, two or more sponge holders, and the proper needles and sutures.

When the patient is fully anæsthetized, her hips should be brought to the edge of the table, which has been placed in a good light, and the proper position chosen for the operation. Either she may lie upon the back or upon the left side. In the dorsal

position the limbs may be held by assistants, or they may be placed in Comstock's gynæpods (Fig. 135) or in Walton's foot-rest. In lieu of a sufficient number of assistants the latter will need to be supplemented by Peters' leg-brace in order to steady the limbs. The first thing to be done is to cleanse the vagina, antiseptically, providing it has not been done before coming to the table. The next step is to secure the cervix and to bring it as freely into view as possible without the use of too much force. By passing a Sims' speculum the os is exposed, and one margin thereof is to be seized with a volsellum, or with a double tenaculum and gently drawn toward the vulva.

A stout needle, armed with a long piece of strong carbolized silk is now passed from above downwards through both lips of the cervix and through the portion which corresponds with the cervical canal. This thread may be caught with a tenaculum and divided so that there shall be one for each lip of the cervix. When these are tied separately they constitute the loops by which these portions of the organ are to be held. The volsellum may now be removed. If you prefer to use the double tenaculum the loops will not be necessary; or, if the patient is in Sims' position the uterus can be held down by a single tenaculum which is securely placed at the angle of the wound.

The process of freshening, or the vivification of the edges of the wound, is a very important part of the operation. The ordinary surgeon is very apt to cut away more tissue than is necessary, while the novice in this work will take too little.

There has been some confusion of terms as to the cicatricial tissue which is foreign to the cervix and which needs to be removed. There is no actual plug there, but there is a varying amount of indurated tissue, more especially in multiparæ, and in those who have been repeatedly cauterized, and about the angle of the wound, which you must cut away. Sometimes this hetero-plastic formation dips down along the sides of the wound and extends farther than you would suppose, but, like the bits of a necrosed bone, it must all come out. In bifid and stellate lacerations we excise the redundant tissue and convert them into unilateral or bilateral wounds. Not only must we trim the edges of the rent, but the enlarged Nabothean follicles must also be carefully cut out. The best sign that all foreign tissue has been removed is furnished by the touch, which recognizes the normal uterine structure.

The freshening may be done with the scissors or with the scalpel. The most thorough separation of the morbid tissue at the angle of the wound is secured by the use of Skene's parrot-bill scissors (Fig. 136a) but, if the laceration is a very deep one there will be a risk of wounding a branch of the circular artery. The hemorrhage which varies in different cases, is easily controlled by the use of hot water applied by sponges or by irrigation with the syphon, or by hemastatic forceps. If the laceration is a double one, having freshened one side, you may save time by applying a hot sponge to the denuded surface and leaving it there while the other side is being prepared.

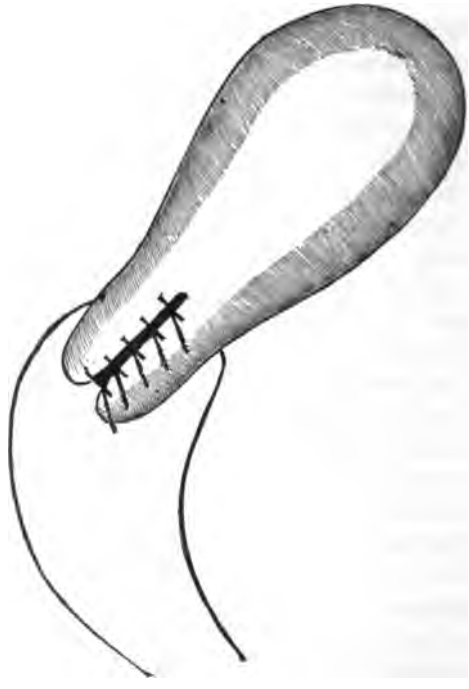


FIG. 135b. The closed laceration (Thomas.)

When the wound has been thoroughly cleaned of blood and of clots it is ready for the sutures. For passing them a straight glove needle, with a sunken eye that will not be crushed in the forceps, is the best. Curved needles are awkward and uncertain; for you never know how deep they are going or where they will emerge. The Russian needle holder (Fig. 136b) will carry the straight

needle where you want it, and since so much depends upon the coaptation of the lips of the wound, this part of the work should be carefully done. You have seen me do this so often in my clinic that I need not particularize, except to say that the first suture should be passed at the angle of the rent, and that if it is properly adjusted there will be no danger from hemorrhage. The sutures must not be too tightly drawn. The number and nearness of the remaining sutures will vary with the case, the rule being that more of them are required if the cervix is very large, or the tear is an old one, or if there has been much venous flow, or if a great deal of cicatrical tissue has been removed; or if there is a probability of the almost immediate return of the menses. You should always count the sutures that are passed, and keep a record of them in order that none of them may be left behind when the time has come for their removal.

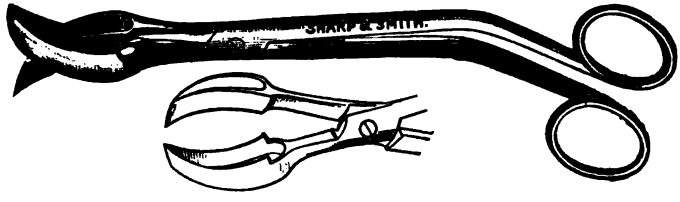


FIG. 136a. Skene's parrot-bill scissors.

The sutures may consist of carbolized silk, cat-gut, horse-hair, silk-worm gut, or of silver wire. As to which you shall take, the silver wire is undoubtedly the best, but, excepting the cat-gut, the others may answer. Before putting in the last stitch on either side of the os-uteri I always take the precaution to pass the uterine sound and to leave it there while the needle is introduced, lest the canal of the cervix should be closed, an accident which has happened to others. The sutures should be bent at right angles with the wound and cut off squarely so that they will not injure or worry the soft tissues. The use of the perforated shot and the rubber tubing for keeping them in position is now very properly dispensed with. (Fig. 135b).

When the inverted structures have been turned within the canal of the cervix, and the edges of the wound brought together, they should fit like the seam in the finger of a glove. The wound should be sponged off carefully and the instruments removed. If the womb is likely to recede very far, or the cervix to be inaccessible,

there is no objection to leaving one of the loops in situ so that it may be drawn down when the sutures are to be removed. Before the patient is placed in bed the womb should be gently and firmly lifted into its normal position. The after-treatment is almost entirely negative, especially for the first thirty-six hours. Until the effect of the anæsthetic has passed she should lie upon her back, after that it will be safe for her to lie upon either side or to be changed from one side to the other.

The after-treatment.

For the first twelve hours the urine had better be drawn, but after that she should be allowed to pass it into the bed-pan. I am satisfied that the prolonged use of the catheter is productive of mischief, particularly when the bladder is sensitive and when it has been more or less traumatized by the forced descent of the

FIG. 136b. The Russian Needle-holder.

uterus. We must refrain from making any local application whatever to the wound within the time specified. This will give it time to heal by the first intention, and the plasma thrown out will not be washed away by any undue interference. After that a mixture of calendula and glycerine in equal parts, a tablespoonful of each to a pint of warm water, may be injected very gently by the fountain syringe morning and evening. If, after some days, the discharge is offensive, a few drops of carbolic acid or listerine may be added to the mixture. If there is no fever, and there usually is none, she may be allowed a good nourishing diet. The bowels should be kept open and soluble, and if the menses return within the first fortnight, remedies should be given to keep the case from developing into one of menorrhagia.

Nothing will be gained but much may be lost by the too early removal of the sutures. My own experience has taught me to leave them *in situ* for ten or twelve days, and, should the menses recur, to pospone still longer, indeed for some days after the flow has ceased.

I have several times thought to take them away, but on examination have found only an imperfect union of the parts, and by waiting a little have afterwards obtained a good result. As a rule

their removal can be most easily effected with the patient lying on the side. Of course the sutures should be cut and not untwisted, else the good result will be spoiled. The principal objection to the silk suture is that it may need to be removed before the wound has firmly closed, and the cat-gut would not hold long enough to be of any real service.

The only cases in which I employ the cat-gut sutures in Emmet's operation is to secure greater accuracy of adjustment, and where it is expedient (it is not always so) to repair the uterine cervix and a torn perineum at one sitting. Under these circumstances, if the rent in the cervix is shallow, with but little cicatricial tissue, and there is no strain upon the lips of the wound, I sometimes stitch it up with large-sized cat-gut, and put one suture of silver wire on each side of the os-uteri. This is sufficient, and the wire sutures, after remaining for two or three weeks, can be easily removed without injuring the perineum.

If the case was not unusually severe, my practice is to allow the patient to sit up a few hours at a time, beginning at the end of a week. When the sutures have been taken she may move about the room a little, but should be cautious not to overdo. With the return of the first period she should go into a menstrual quarantine.

In a considerable share of cases Emmet's operation has resulted in the cure of sterility. In subsequent labors there is no increased risk of re-laceration.

LECTURE LIII.

VESICO-VAGINAL FISTULÆ.

The varieties of vesical and vaginal fistulæ. *Vesico-vaginal fistulæ*. Causes, from childbirth, from wounds, from calculi, from syphilis, cancer, etc. Symptoms. *Case.*—Physical signs of. *Case.*—Prognosis. Treatment, in recent and in chronic cases, by cauterization, and by Sims' operation. *Case.*—*Recto-vaginal fistulæ*. Causes. Physical signs. Prognosis. Treatment by surgical procedure.

Varieties of vesical and vaginal fistulæ.

There are several varieties of fistulæ which open into the bladder and the vagina. The names that are applied to them indicate the cavities which are thus made to communicate unnaturally. For example: A *vesico-vaginal* fistula is one in which there is an opening between the bladder and the vagina; a *vesico-uterine* fistula implies that the uterus and the bladder communicate; in a *recto-vaginal* fistula the wall that separates the vagina from the rectum is perforated; in a *urethro-vaginal* fistula the urine may escape into the vagina without passing through the meatus-urinarius.

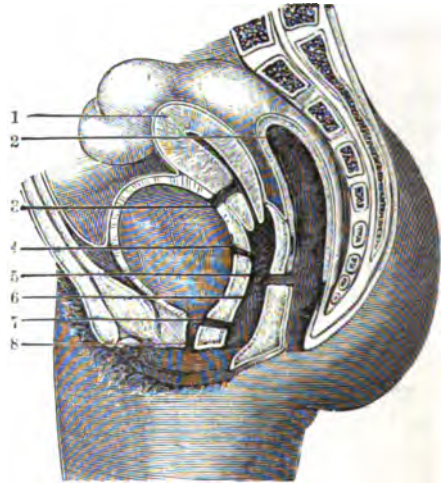


FIG. 137. Diagram showing the principal varieties of vaginal fistulæ. 1. The fundus uteri. 2. The rectum. 3. A utero-vesical fistula. 4. A vesico-vaginal do. 5. A recto-vaginal do. 6. The vagina. 7. A urethro-vaginal fistula. 8. The urethra.

The site of these several lesions is shown in this drawing. (Fig. 137.)

There are other kinds of genital fistulæ in women that are more rarely seen. Thus we may have a *vesico-utero-vaginal*, a *ureto-uterine* or a *ureto-vaginal* fistula, a *recto labial*, an *entero-vaginal*, a *perineo-vaginal*, or a *peritoneo-vaginal* fistula. But, of the urinary fistulæ, the vesico-vaginal is by far the most frequent; while of the fecal fistulæ, the same is true of the recto-vaginal variety.

I shall first speak of those cases in which there is a fistulous orifice between the bladder and the vagina. In these fistulæ the opening may be so small that we can find it only by injecting the bladder with colored water and then watching for its means of escape, or large enough to involve the whole posterior wall of that viscus. In the case of large-sized fistulæ the older they are the smaller they become.

Here is an excellent model which I brought from Paris that shows the exact relation of the parts in vesico-vaginal fistula;

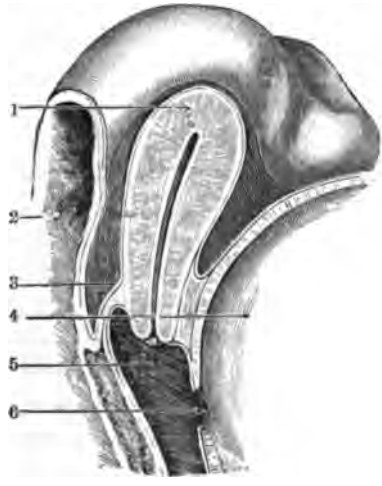


FIG. 138. A vesico-vaginal fistula. 1. The fundus uteri. 2. The rectum. 3. The retro-uterine pouch. 4. The bladder. 5. The vagina. 6. The fistulous opening.

and this diagram (Fig. 138) will give you a correct idea of the lesion when it is located above the *bas-fond* of the bladder.

Causes.—The chief cause of vesico-vaginal fistula is the pressure of the fœtal head against the pubis in labor, and the traumatic inflammation and sloughing that follow it. It is, therefore,

a contingent of difficult and tedious delivery. In rare cases it is undoubtedly caused by the hasty and improper use of the obstetric forceps, more especially by the up and down, or pump-handle movement of the instrument while making traction. More rarely still these fistulæ have been caused by the wearing of an ill-adjusted pessary, or of one that has been left in the vagina after it has decomposed and given rise to ulceration and sloughing of the vesico-vaginal septum. They may also arise from injury during craniotomy. In other cases the bladder has been perforated by needles or pins that have been passed into it through the urethra, and by vesical calculi complicating labor, as well as by syphilitic and cancerous ulceration. This variety of fistula is a possible result of puerperal vaginitis; and I have already told you (Lecture XXXVI.)that it is sometimes induced artificially in the treatment of cystitis, and of stone in the bladder.

Its origin in childbirth.

Other causes.

Symptoms.—The first symptom to attract attention is a more or less constant and involuntary flow of urine, which commences at a period varying from three to thirty days after delivery. This dribbling is usually noticed within the first week, but where there is a large slough, more especially from puerperal vaginitis, it may not come on until a fortnight or more has elapsed. The fact that the lesion is always upon the posterior wall of the bladder, or about its sphincter, usually renders the flow of urine constant while the patient is lying down; but exceptionally it may be relieved by this position. If the fistulous orifice is above the insertion of the ureters, she may be able to retain a considerable quantity of urine while standing. One of my patients had arranged a sort of time-table to the capacity of the bladder, and for six years had seldom allowed the urine to overflow into the vagina. In her case the fistula was small and very high. It was cured by a single operation. Courty reports the following:

The pathognomonic sign of.

Case.—I have lately seen a young woman with a fistula which would readily admit the first phalanx of the index finger, but in spite of its size, by a singular mechanism, the urine was habitually retained in her bladder, sometimes for an hour, and escaped only when she was obliged to let it go suddenly. This result was due to the fact that by the settling down of the uterus the vesical

mucous membrane in the median line was made to cork up the orifice, after which the urine accumulated in the right and left diverticulæ of of the bladder.*

In acute cases the overflow, or incontinence of urine is almost always preceded by hæmorrhage, and, if the slough is extensive, by the discharge of bits and shreds of tissue. The parts have been rendered so insensible by the traumatism of labor that there is little or no pain. But, when the case has become chronic, the symptoms are apt to include those of an inflammation of the neighboring parts, as vaginitis, with spasmodic constriction of the passage, vulvitis, cystitis, endometritis, and even pelvic cellulitis and peritonitis.

In recent cases.

In extreme cases the soft parts may have sloughed so generally that little or nothing of the vaginal canal is left. The worst example of this kind that I have ever seen was sent to me two years ago from New Orleans by my friend Dr. W. H. Holcombe. The lesion had resulted from a labor which had lasted actively for a week, and which was finally ended by the use of the forceps. The patient lived in the interior of the southern country, and could not have the proper medical assistance.

I shall never forgive you if in your note-books, you place the credit of this terrible result either to my friend Holcombe, or to the forceps, for, unfortunately for the poor victim, neither the one nor the other of these excellent agents was within her reach at the right time.

Beside the symptoms already given, the unnatural flow of the urine over the vaginal mucous membrane causes irritation, excoriation and ulceration, with vesicular eruptions erythema and pruritus of the vulva, the perineum, and even of the thighs. In old cases the edges of the wound are often covered with incrustations of phosphatic deposits that break and fall into the vagina, and that cause great pain and discomfort. Sometimes these deposits accumulate within the bladder, whence they will need to be removed through the fistulous opening or the dilated urethra before an operation for the radical cure is made.

The physical signs are obvious and satisfactory. In minute capillary fistulæ you may need to resort to the expedient already

* Traite pratique des maladies de l'Uterus, des Ovaries et des Trompes, par A. Courty. Professor, etc., Paris, 1872, p. 1,199.

given. But in all ordinary cases, the touch conjoined with the passage of the catheter through the urethra, or what remains of it, and out through the wound into the vagina will detect the rent. And the use of a Sims' speculum in the semi-prone or the prone position will reveal its site and dimensions, and make it thoroughly accessible.

The physical signs.

In March, 1874, Dr. T. M. Martin, a member of the class from Wisconsin, brought a woman to my clinic who had had a vesico-vaginal fistula for sixteen and a half years. The following is the record of her case:

Case.—Mrs. ——, aged 34, was married eighteen years ago. Her first child was born eighteen months after, the labor being very severe and prolonged. Her mother says that the head of the child becoming impacted in the pelvis, the attending physician gave her considerable quantities of ergot in order to complete the delivery. But this failed, and two other doctors, who found it necessary to resort to craniotomy, were called in. After this operation she was very ill, and came near dying. In five or six days the urine began to run away, and from that time until now (sixteen and a half years) she has never passed it naturally, nor has she been able to retain it for a moment, in any posture, after it has been discharged from the ureters into the bladder.

For two years after the accident she was a cripple, during the first of which she could not stand upright, and throughout the second year she was obliged to walk on crutches. Her general health, however, did not really mend until she again became pregnant. She reached term, and was safely delivered of her second child; and now, in all, she has had *six children since the fistula was formed.* These children were born without instrumental aid, and are alive to-day.

Her mother, who has been her nurse, and who used frequently to dress the fistula through a speculum, is confident that the opening into the bladder has become a little smaller with each successive confinement. For the most part, for seven years she was compelled to remain either in bed or in a sitting posture. The general health is now good, but she is a pitiable martyr to an incessant flow of urine.

I made the operation before the whole class, when it was much smaller than now, and the result was that at first there was an incontinence of urine, and a very slight leakage, both of which soon ceased entirely.* For some months she was well, but unfortunately she again became pregnant, and after her next labor

*Vide, The U. S. Medical and Surgical Journal, Vol. IX., p. 330.

there was a small fistulous opening which caused a return of the old symptom. She afterwards came before my private class, when

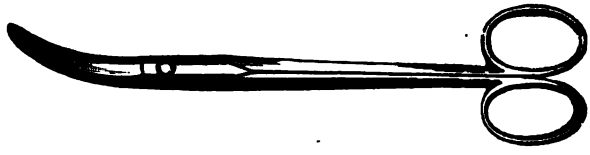


FIG. 139. Curved scissors.

the lesion was identified, but she would not consent to another operation.

Prognosis.—If we except those cases in which there is a depraved constitution, or a vicious cachexia, like syphilis or cancer, the rule is that all cases of vesico-vaginal fistula are curable. If the rent is very large, and the sloughing and loss of tissue has been very extensive, the case may not justify an operation. Some of them get well spontaneously, others by caustics and the milder means, and others still require two, three, or more operations. Dr. Thomas makes this remark concerning vaginal cystotomy as compared with these fistulæ:*

"It is a curious fact that, when for the relief of chronic cystitis a vesico-vaginal fistula is intentionally created by the knife, it is difficult to keep it open. In spite of the occasional introduction of the sound for this purpose, such openings obstinately heal of their own accord, so that it becomes necessary to place a species of button or stud in the opening to prevent a result which, under these circumstances, is undesirable. This case seems parallel with that of perforation of the tympanum, which, being effected by an instrument, heals rapidly; while the closure of an opening, the result of disease, is usually impossible."

Treatment.—The treatment of these uro-genital fistulæ divides

FIG. 140. Bozeman's curved scissors.

itself into that proper for acute or recent cases, and that which is adapted to chronic cases. When a fistula is discovered during

* A practical treatise on Diseases of Women, by T. Gaillard Thomas, M. D., etc. Fifth edition, 1880, p. 237.

the lying-in there is nothing to do except to keep the patient quiet, in the recumbent posture, to wash out the vagina and the bladder with warm calendula water, to place a Skene's, or a Sims' catheter in the urethra permanently, if the patient can bear it, and to wait in the hope of a spontaneous cure. For at this time there would be an intolerance of the suture, nor, under the circumstances could it be so readily applied as afterwards. Some French authorities advise the use of the serre-fines, but in order to adjust them, the rent must be accessible, and you will need to be very expert.

During the lying-in.

FIG. 141. Bozeman's double curved scissors.

Outside of the puerperal state many attempts have been made to heal these fistulæ by the use of caustics, either with or without an appliance that was designed to keep the edges of the wound in apposition. This mode of treatment seems best adapted to those small and very minute fistulæ in which there is little or no loss of substance. A shot-hole orifice might thus be healed by the use of the nitrate of silver, caustic ammonia, or potassa, nitric acid, tincture of iodine, the tincture of cantharides, sulphuric acid, chromic acid, the acid nitrate of mercury, or the galvano-cautery.

In post-puerperal and chronic cases.

By cauterization.

In a remarkable monograph upon this mode of treating vesico-vaginal fistulæ, Dr. E. F. Boque gives the details of 204 cases and the results obtained.* Of these, in twenty-one cases the size of the fistula was from one to six centimetres, in twenty-four from one to three fingers could be passed through the orifice, and in a still larger number the opening would admit the uterine sound. His comparative tables show as good results as were obtained up to the year 1875 by the more usual operation that was first practised in this country by Dr. Sims.

* Du traitement des fistules uro-genitales de la femme par la reunion secondaire, etc. par Ed. F. Boqué, Paris. 1875, pp. 261.

In the *Archives de Tocologie*, etc., for May, 1880, you will find the record of a most remarkable case of vesico-vaginal fistula which had been operated upon and closed with silk sutures five times in succession without a

Case.

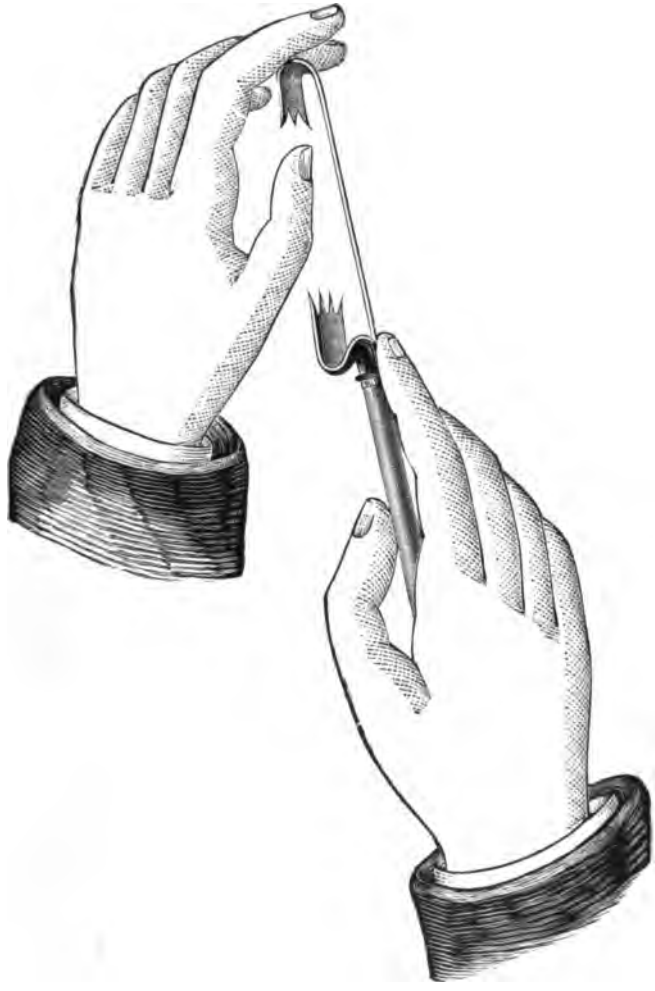


FIG. 142. A serrated clamp and its mode of application.

cure, by Dr. Gerassimides of the Faculty of Pisa. He finally devised an instrument for holding the edges of the wound securely until they had united. Fig. 142 shows the mode of application of this serrated clamp from the vaginal side.

We must not omit to mention that in the repeated operations made in this case, the silk and not the silver wire suture was employed.

The usual operation for.

The American operation, so styled because it was first elaborated and applied by Dr. Sims, of New York, is the prevalent mode of cure for these, as well as for other forms of genital fistulæ. The preparatory treatment consists in the removal of bands and adhesions that may have formed, by means of their division and dilatation, as in other kinds of anaplastic surgery. For if the zone of tissue that is to be operated upon is not free from tension, and tolerant of the suture, the result will be a failure. In extreme cases it may happen that weeks will be spent in getting rid of these obstacles, by exposing them and cutting the bands with the scissors, after which the vagina is dilated mechanically with sponge that is covered with oiled silk, or with a glass vaginal plug. Meanwhile, the inflamed and tender surface of the vagina may be healed as far as possible, by soothing applications.

The preparatory treatment.

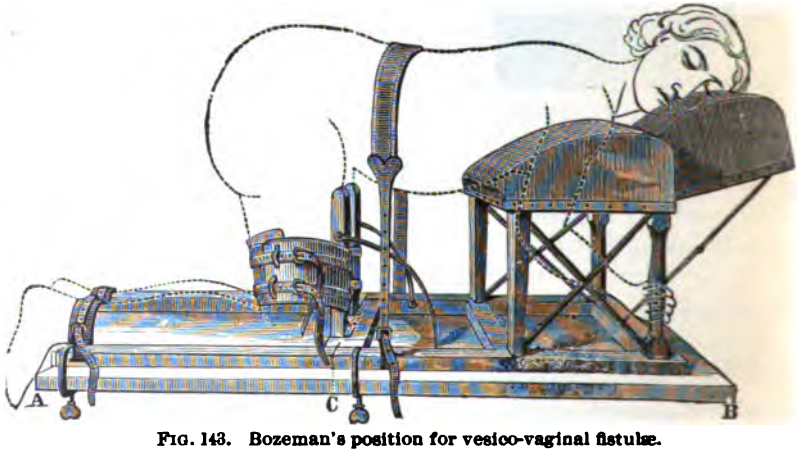


FIG. 143. Bozeman's position for vesico-vaginal fistulæ.

Special surgical indications.

When we are ready for the operation five indications should be kept clearly in mind. (1), to expose the rent, and to make it thoroughly accessible; (2), to freshen its margin as perfectly as possible; (3), to apply and to secure the sutures so as to close the fistulous orifice with the greatest accuracy; (4), to drain the bladder while

the wound is healing; and (5), to remove the sutures very cautiously in due time.

The view of the wound.

The first of these indications is met by placing the patient in the Sims', or the prone position upon a proper table or chair, and in a good light. Some operators prefer Bozeman's plan in which (Fig. 143) the patient is secured in the knee-chest position by an arrangement which can be screwed to the table. A Sims speculum is then passed and the perineum is retracted. Lateral retraction, by Sims depressor (Fig. 144) may also be applied so as to expose the affected part more thoroughly. If the rent is high in the anterior

FIG. 144. Sims' depressor.

cul-de-sac, or lateral, and not readily accessible, it may be best to seize the uterine cervix and bring the womb down to the extent of everting the anterior roof of the vagina. If necessary the cervix can then be secured by a loop, and given in charge of an assistant.

Vivifying the margins.

To freshen the edges of the wound is always a delicate, and sometimes a difficult task. It must be done as freely and as thoroughly as possible, but from the vaginal side only. The vesical mucous membrane should not be cut, or pricked, or injured in any way. Simon, of Heidelberg, intentionally included the bladder, but it is not

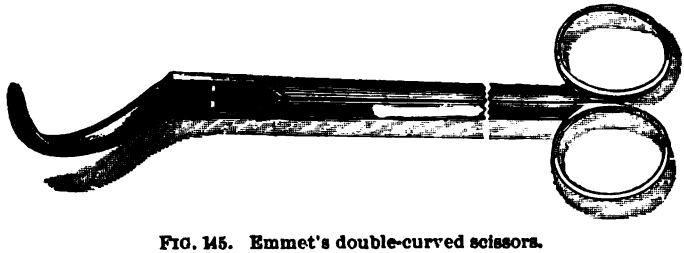


FIG. 145. Emmet's double-curved scissors.

safe. Every bit of mucous, or of cicatricial tissue upon the borders of the fistula must be removed before we can reasonably hope for a good result. The plan which I have found most convenient is to secure one lip of the rent at a time with a Sims seizing forceps (Fig. 149) and then to pare the edges with the curved scissors,

(Figs. 145, 146, 147) or with the knife (Fig. 148). The art of vivifying the margins and bevelling them properly is acquired with practice and care, and when you have made the operation a dozen times you will have acquired sufficient dexterity to do it well.

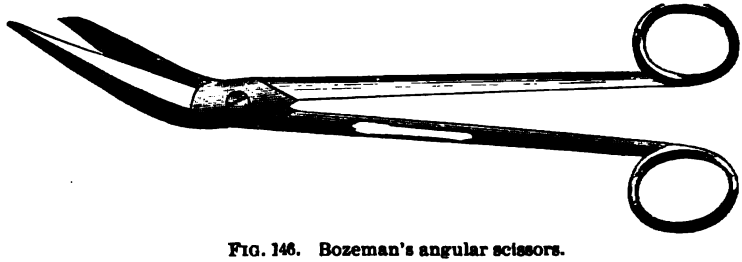


FIG. 146. Bozeman's angular scissors.

I am fully convinced that Emmet's idea of using the scissors in preference to the knife in these cases, because it exercises a kind of torsion of the capillaries as we proceed, is the correct one. If there is considerable hæmorrhage, the hot-water irrigation, as in trachelorrhaphy, will arrest it.

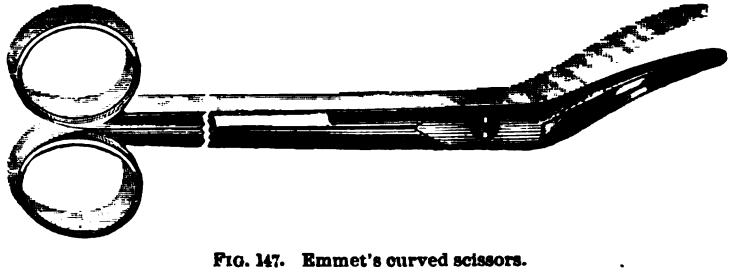


FIG. 147. Emmet's curved scissors.

The insertion of the sutures.

The next step is the insertion of the sutures, which should always be of silver wire. The whole secret of passing them properly is to remember that the vesical and vaginal mucous membranes are separated by a layer of cellular tissue, and that the needle must penetrate the vaginal side and pass through this intermediate tissue without puncturing the bladder.

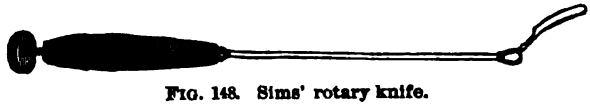


FIG. 148. Sims' rotary knife.

Taking a Sims' needle-holder, (Fig. 151,) and one of Sims', of Emmet's, or of Hodgen's needles, its point is introduced at a third

to a quarter, or even half an inch from the margin, is made to pass through the freshened edges and across the fistulous orifice, so as to emerge at the same distance from the opposite lip of the wound.

FIG. 149. Sims' seizing forceps.

The suture is drawn through, the border being steadied by this little fork (Fig. 152), and cut off at the proper distance. (Fig. 153) The first of these is passed at the upper end of the fistula and the others in succession, from above downwards, until all are in position. Then, before twisting them down and closing the wound, the bladder and the vagina should be carefully washed and cleansed of blood-clots and of all foreign substances.

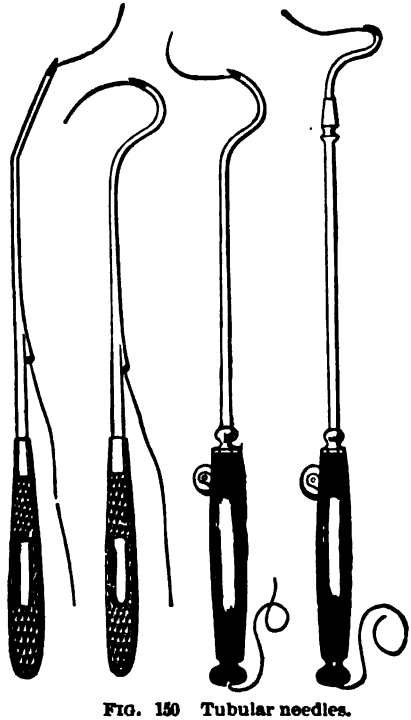


FIG. 150 Tubular needles.

Here is an expensive case of tubular needles which I brought from Mathieu, in Paris, that are designed to pass the silver wire directly by means of a reel in the handle. I have tried them several times, with the result of satisfying myself that they are

of great service when the vagina is narrow and the rent is high and difficult of access. The varying curves of the needles fit them for use especially in recto-vaginal fistulæ.

FIG. 151. Sims' needle-holder.

The careful adjustment of the freshened borders may be effected with the fingers and by the manipulation of the sutures. It must be done slowly and cautiously, so as by bringing the edges together externally to turn their united margin into the cavity of the bladder. This not only brings the scarified surfaces into close contact, but it makes a ridge within the bladder that turns the water like the peak of a roof. It is because this bit of tailoring must be water-tight that you should take the greatest care so to twist the sutures as to bring the parts into exact apposition, and not to close the mouth of either of the ureters. As a rule we always begin by twisting those sutures which are nearest to the vulvar outlet, but they must not be drawn too tightly.

Adjustment of the lips of the wound.

Concerning the best method of securing these sutures, when they have been carefully twisted, there are various opinions. The simplest plan is to cut them off and bend them at a right angle with the wound, as you have seen me do after an ovariotomy. Some prefer to pass a perforated shot over the wire and then to compress it firmly; and others use a thin disk of perforated lead, which is known as Bozeman's button (Fig. 154), and which can be trimmed to suit special cases. Sometimes both are used together. (Fig. 154).

Tightening the sutures.

In the majority of cases, since the principle is the same, there is no compensation for the extra trouble of fitting and adjusting a Bozeman's button, or anybody's clamp. The interrupted suture is sufficient.

In order to prevent an accumulation of urine, which would strain

the wound, interfere with its union, and give rise to pain and suffering, the bladder must be drained, at least for the first forty-eight hours. If the urethra will tolerate it therefore, a Sims improved, or a Skene's self-retaining catheter (Fig. 69) may be passed and allowed to remain in position. Unfortunately, the cases in which the lesion is at the *bas-fond* of the bladder, are those in which the instrument is not very well borne, and you will need to remove it occasionally, or perhaps to take it away altogether. In two of my cases I found the flexible rubber catheter to answer the purpose. The catheter will need to be removed now and then in order to cleanse it, and it may be necessary to draw off the urine at regular intervals during the first fortnight.

Vesical drainage.

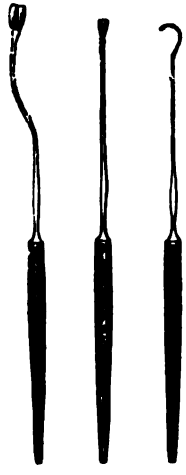


FIG. 152. The wire adjuster, shield, and blunt hook.

The sutures should be carefully removed on the ninth or the tenth day. The ease with which this may be accomplished will depend upon circumstances. If the rent is high, or the parts are tumefied and the sutures are buried out of sight, it may be very difficult. It is sometimes necessary to seize the neck of the womb and draw it down again. If the wire is not readily accessible, you will have to take the blunt hook (Fig. 152) and fish up the loop so that you may pass one blade of the scissors through it as shown in Fig. 156. Care should be taken to straighten the cut end of the suture before turning it out, lest you tear the tissues.

Removal of the sutures.

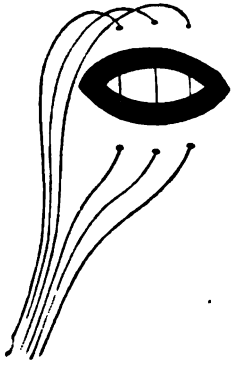


FIG. 153. The sutures in position.

Caution, and encouragement.

You should not be discouraged if, upon the removal of the sutures there is a slight leakage of urine into the vagina. In very bad cases this is likely to happen, and may be only temporary. But sometimes a small orifice may remain, and this will need to be treated by a subsequent operation.

It is commonly supposed that the operation which I have just

described is free from danger, even where it is not successful. Our American authors are almost silent upon this point. The fact is that there is no other operation which belongs to anaplastic surgery that is so dangerous as this one. In a remarkable memoir upon this subject, contained in the *Annales de Gynecologie* for January 1877, Doctor Verneuil treats this subject very thoroughly. He says:

The dangers of the operation.

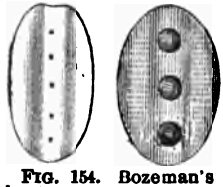


FIG. 154. Bozeman's button sutures.

"I am pursuaded that the newer methods of operating are less dangerous than the old, first, because of their usual success at the first trial, the repeated operations that were once necessary are not called for; and also because in the different steps of the operation the tissues are better managed, and, as a rule, the preparatory incisions, dilatation, etc., are dispensed with. In spite of all this however, at least if I may judge by my own experience, the mortality is still pretty large. Indeed, in my unfortunate cases I do not think that I have committed any great surgical error either before, during, or after the operation, and yet I have lost five women in about eighty operations! Two others have threatened to die, one of erysipelas, and the other of embolism! and several have been very ill with pelvic troubles, but they have finally recovered."

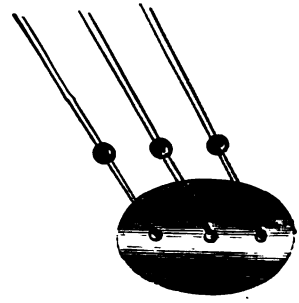


FIG. 155. Bozeman's suture applied.

Fatal results have also been recorded in consequence of secondary hæmorrhage, traumatic fever, pelvi-peritonitis, cystitis, albuminous nephritis, hydronephrosis, and uræmia. In the journal just referred to for the following month, page 129, M. le Dr. Puech gives the statistics of 229 cases which had been operated upon by various physicians with a loss of thirteen, or one in every seventeen cases.

The practical inference is therefore, that, even in the most promising cases, this operation should not be undertaken without care in the selection of subjects, nor yet without qualifying our prognosis with reference to a possibly fatal result.

Elytroplasty

Beside the operation which we have considered there is a form of vesico-vaginal anaplasty that is very rarely practised in our day, which consists in closing

the fistula by means of a flap that has been dissected from the posterior wall of the vagina, the vulva, or the buttock, and stitched into the fistulous orifice.

Episiorrhaphy. Another expedient consists in the closure of the vagina, as in the extreme cases of procidentia of the uterus spoken of in Lecture XXXVIII.

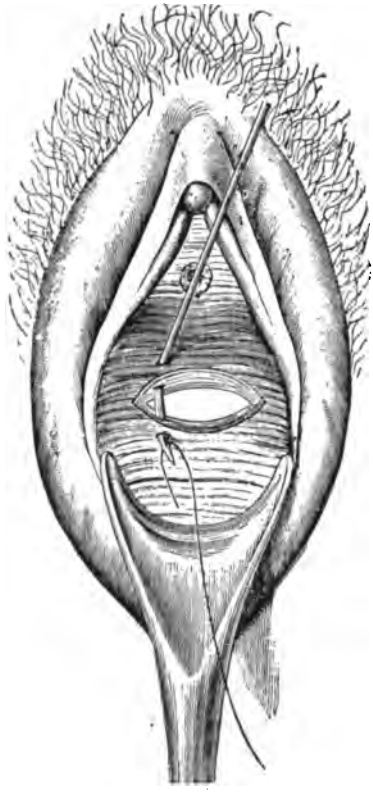


FIG. 156. Introduction of the sutures.

RECTO-VAGINAL FISTULÆ.

In this form of fistula the recto-vaginal septum is open and permits the escape of gas and of fæces from the rectum into the vagina. A good idea of its most common form is given in Fig. 137. The extent and location of the orifice varies. It may be small enough merely to admit the point of a probe, or large enough to reach from the posterior cul-de-sac to, and even through

the sphincter ani and the perineum. In some cases it is so high as to be found with difficulty, but oftener it is within easy reach.

Causes.—For the most part the causes are the same as those of vesico-vaginal fistula,—protracted labor, pressure from an im-

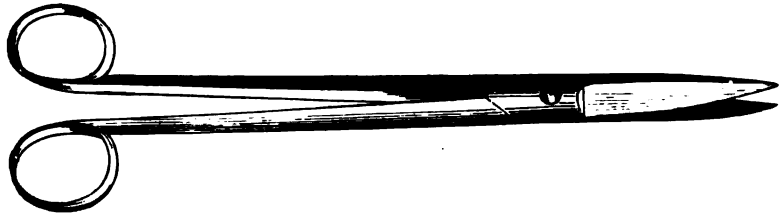


FIG. 157. Straight scissors.

pacted head, traumatism from manual interference, an abuse of the forceps, or, more frequently, an unwarrantable or unavoidable delay in using them; the wearing of mal-adjusted, broken, or decayed and decomposing pessaries, abscesses, excessive and

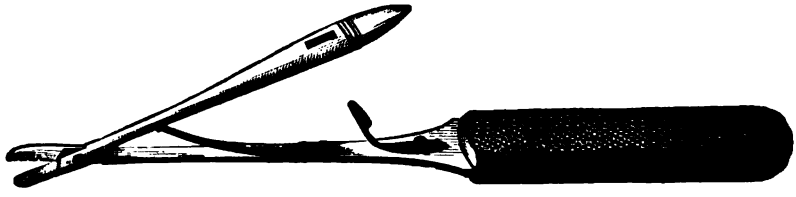


FIG. 158. Sims' knife-holder.

misapplied cauterization, the ulceration caused by hardened fæces, stricture of the rectum, penetrating wounds of the vagina, and syphilitic and cancerous ulceration.

Physical signs.—The objective signs of this disagreeable infirmity consist in the passage of fæcal matter and of flatus into the

FIG. 159. Notts' double tenaculum.

vagina. If the rent involves a rupture of the sphincter ani and of the perineal delta, as my friend Dorion termed it, the rectum and the vagina have a common outlet, and the patient becomes a *monotreme*.

The physical examination may be made with the patient lying upon her back. The hips should be brought squarely to the edge of the table, and a Sims speculum passed in a reverse way from

that in which it is usually employed. With this the anterior wall of the vagina is lifted, and the recto-vaginal septum falls into view. The location and limits of the rent may then be known by passing the finger into the rectum. If the fissure is small and high up toward the roof of the vagina, it may be best to turn the

The physical examination.

FIG. 160. Nott's depressor.

patient upon her left side. In either case the margins of the opening are less likely to be inflamed and excoriated than in the case of vesico-vaginal fistulæ.

Prognosis.—Contrary to what you may have supposed a larger proportion of cases of vesico-vaginal fistulæ are curable than of those now under consideration. Indeed, fecal fistulæ of all kinds

FIG. 161. Sims' uterine tenaculum.

are rebellious to treatment, and we must not promise too much for any of them. I have long been satisfied that better results will be obtained in these cases when we realize that a single mode of operation is not suited to all of them indiscriminately. It is a fallacy to suppose that because a general surgeon has been

FIG. 162. Bozoman's wire adjuster.

successful in the ordinary line of his work, he must, therefore, be skilful and successful in these cases also. Briefly, the prognosis will vary with the kind and degree of the lesion, the general condition of the patient, the nearness or remoteness of the puerperal state, the mode of operation that is employed, the necessity for its repetition, and the dexterity and the special experience of the operator.

The Surgical Treatment.—The simplest mode of operation consists in freshening the edges of the orifice upon the vaginal side,

in drawing them together accurately by interrupted silver sutures, in twisting these sutures, in passing the perforated shot and compressing them, the same as in vesico-vaginal fistulæ. In this case, therefore, you will need the same instruments that I have already advised in the former part of this lecture. The freshening may usually be done with a pair of straight scissors (Fig. 157). If the fistula is far away, however, you may need to use a Sims knife-holder and adjustable blade, (Fig. 158) instead of these or the curved scissors. For holding the margins firmly, a Notts' depressor (Fig. 160), or double tenaculum (Fig. 159), or a Sims uterine tenaculum (Fig. 161) may be necessary. In vivifying the margins, as well as in passing the needle, the introduction of a rubber ball, like a Gariel's air-pessary, which can be passed into the rectum behind the fistula and inflated, will sometimes expedite the operation.

The usual operation.

I have found Bozeman's wire-adjustor of real service in twisting the sutures closely in some cases of recto-vaginal fistulæ and I much prefer to secure the wires with perforated shot that can be compressed with these forceps. (Fig. 163).

FIG. 163. Shot compressor.

In the after-treatment, it is really a question whether the old practice of keeping the bowels bound does not do more harm than good. My early experience convinced me that the passage of hardened fecal masses into the rectum after a period of forced constipation was very likely to interfere with a good result; and I consequently adopted the practice of keeping the bowels in a soluble state by the use of laxative food and fruits, and by the occasional prescription of nux vomica, plumbum, or collinsonia. Vaginal injections of warm water with the tincture of calendula may be used daily. The sutures may be removed in eight or ten days, and the patient allowed to take moderate exercise after the second week. To

The after-treatment.

admit of the escape of flatus, and to prevent tenesmus a rectal tube should be worn for some days.

Newer modes of operation.

Another mode of operation is to bevel the edges of the fistula, and to sew the wound on the rectal instead of the vaginal surface. This is easily accomplished by stretching the sphincter with the two thumbs (as should be done in all modes of operating,) and the introduction of the speculum through it into the bowel. In order to avoid the trouble and pain of removing the rectal sutures, Dr. Goodell prefers that they should be of fine gut.

An ingenious method consists in splitting the margin of the fistula all around, and afterwards uniting them by two sets of sutures, one of which is in the vagina and the other in the rectum.

In another plan of operation, which is highly recommended by Dr. Goodell,

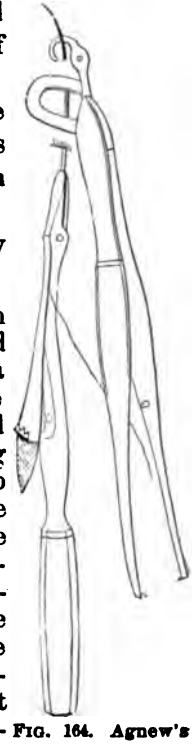


FIG. 164. Agnew's adjuster.

"A shallow cut is made around the vaginal mouth of the fistula, about half an inch away from it, and the mucous membrane dissected up to its rim in a frill. This is next inverted and pushed into the rectum through the opening, which is now closed by rectal and vaginal stitches—the former uniting the raw surfaces of the frill, the latter the raw strip around the vaginal rim of the fistula. Should the opening into the rectum be too high up to be reached, the rectal stitches can be passed *per vaginam* in the following manner: Before the mucous frill has been inverted, metallic sutures are passed through its edges, each end of each one entering the raw surface and emerging on the mucous surface. The free ends of the wires are next secured temporarily by twisting them over a perforated shot. After all these sutures have been passed, the shot are pushed through the fistula into the rectum and out through the anus, and the frill is inverted by traction on them. The shot are then run up one by one to the rectal wound and clamped, and the operation is completed by sewing up the vaginal wound."

LECTURE LIV.

LACERATIONS OF THE VULVA AND OF THE PERINEUM — PERINEORRHAPHY.

These lacerations are often confounded. The anatomy of the vulvar orifice. Lacerations of the fourchette. Anatomy of the perin um. The pe ineal body. Physiology of the perineum. *Case.*—Varieties of perineal laceration. Frequency of do. Symptoms. Treatment. The primary and secondary operations.

In the practical study of lacerations of the perineum we shall avoid confusion if we are careful not to confound those of the perineum proper with those of the vulvar orifice. For, although these lesions are usually described as identical, they are not really so; and much trouble has been occasioned by the fact that the anatomy of these parts has not been separately considered and studied by gynæcologists.

These lacerations often confounded.

The peculiarities of structure of the vulvar orifice are the raphe, or the junction of the vaginal mucous membrane with the integument; the fourchette, and the form and direction of the sphincter vaginæ muscle, which surrounds the external orifice of the vagina, and which is attached posteriorly to the central portion of the perineum, where it mixes with the transversalis and the sphincter ani muscles. These structures guard the vaginal orifice and permit of its distensibility and dilatability, which qualities are essential to a safe and natural labor.

Anatomy of the vulvar orifice.

The sphincter vaginæ is an orbicular muscle, which is more easily broken than you would suppose, if the force that is applied is not in the direction of the axis of the vagina. Hence, in very rapid labors, when the presenting part is driven through the vulvar outlet there is not sufficient time for adaptation, and the sudden extrusion results in a rupture of the sphincter. This rupture may occur laterally and involve the labia, or superiorly, through the anterior commissure of the vulva or the nymphæ, where it

bleeds freely; but more frequently it takes place at the posterior commissure of the vulva.

Laceration of the fourchette.

In primiparæ the fourchette is almost always torn in labor, but, if the deeper structures are not involved, the case is not one of laceration of the perineum. So long as the wound is limited to the vulvo-vaginal orifice it is really as distinct from a case of ruptured perineum as it is from one of laceration of the cervix uteri. The fact is that the co-existence of rigidity of the os uteri with what is usually styled a ruptured perineum in labor is a mistake; for the external part which is unyielding is the vulvar orifice, and not the perineum. The careful obstetrician will tell you that, if labor is retarded by an undilatable os-uteri, the presenting part is sure to be arrested in a

A practical hint.

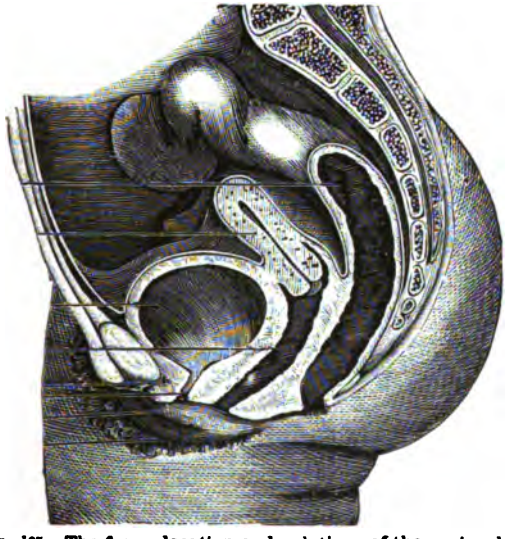


FIG. 165. The form, location and relations of the perineal body.

similar way at the vulva. And the gynæcologist will tell you that the resulting lacerations of the cervix and of the fourchette tally exactly with this state of things.

Anatomy of the perineum.

The peculiarities of the perineum concern the form, the position, the structure, and the relations of what has been aptly termed the perineal body. This is a triangular muscular structure which is located between the orifice of the vagina and that of the rectum.

Its broadest part is at the integument, or along its cutaneous border, and its apex merges into the recto-vaginal septum. So you observe in this model (Fig. 165), its anterior margin is along the posterior wall of the vagina, and its posterior border is anterior to the rectum. It lies between the two, and its purpose is to prevent a prolapse of the bowel into the vagina, as well as a descent of the vagina itself, and also of the uterus and the bladder.

The perineal body.

The physiology of the perineum is peculiarly interesting. It may not have occurred to you, and you may not have read in your text-books, that the changes which take place in the perineal body during gestation, and after delivery are as pronounced in their way as are those which are proper to the mammary gland, the heart, the liver, or even to the uterus. Whatever interferes with the development of this inverted keystone during pregnancy will predispose it to traumatic injuries during labor; and whatever arrests its puerperal involution will prevent the reparative process afterwards. There are cases of laceration of the perineum which result from the imperfect development of these structnres, and from their forced expansion during labor, which, strictly speaking, are due to an organic defect, for which no one is to blame, and for which there is no known prophylaxis.

The physiology of the perineum.

Observe that, in order that we may have a case of lacerated perineum, this perineal body must be torn, or split, and the rent must extend into its structure, or perhaps through it, to the recto-vaginal septum. The rupture may be partial or complete, and it may or it may not involve the sphincter ani, and the sphincter vaginæ. In rare cases the perineum is perforated, and the child has been extruded without injury to either of these sphincters. When the laceration has begun at the fourchette and extended to the sphincter ani, both the vulvar orifice and the perineal body have been stretched and torn; and when it has involved the recto-vaginal septum, the case is complicated with a recto-vaginal fistula. One of the classes has recently seen me operate upon a very marked case of this kind in my sub-clinic.

Causes.—Premature delivery, tedious, impracticable and instrumental labor, the too rapid extrusion of the fœtal head, puerperal convulsions, the delivery of the shoulders, dry births,

irregular, vertex and face presentations, and version, are the most common causes of this accident. It is more likely to result in first than in subsequent labors; and there is a tradition that women who have their first children late in life are especially liable to it. Laceration of the perineum may also arise from a direct wound, and from the careless delivery of uterine tumors.

Case.—I once had a case in my clinic in which the patient was brought before the class for the removal of an enormous fibroid which had escaped from the os uteri, and which filled the pelvis completely. It was severed by a strong copper wire in the écraseur, but the wire broke twice before it was finally detached. When I removed the instrument I found that the catch on the back side of the staff had split the perineum all the way down to its cutaneous border! The tumor, which afterwards weighed six pounds, was so spherical that it could not be delivered by the usual means. I then applied the obstetric forceps, but it was too dense for compression and I was forced to desist. My only remaining resource was to cut it in pieces and to take it away in sections, which was carefully and successfully done. The patient had been so long under the influence of the anæsthetic, and was so very weak and anæmic from the fearful menorrhagia to which she had been subject, that it was not safe to make the primary operation for the cure of the lacerated perineum. Six months later I made the operation of perineorrhaphy upon that woman in this amphitheatre, with an excellent result. The last heard of her, for she was a farmer's wife in Wisconsin, she was riding upon a reaping machine in the harvest field.

Varieties. —The three varieties, that are usually described are (1), a shallow superficial rent, extending through the fourchette, and scarcely touching the perineal body; (2), a rupture of the perineum proper as far as the external sphincter ani, and (3), a laceration that extends from the posterior commissure of the vulva through the sphincter and into the bowel. For reasons that I have given you the first of these should properly be regarded as a laceration of the vulvar orifice and not of the perineum. They are the kinds of laceration which often heal spontaneously.

Frequency.—What I have said of the relative frequency of lacerations of the cervix uteri is quite as true of vulvar and perineal lacerations. The mere fact that physicians and obstetricians have often overlooked them, does not disprove their existence. In recent

We must look for these lesions.

cases we cannot be certain of their location or extent without a careful examination after the labor. This examination should be made with a competent assistant, a sponge and some warm water, and by means of a candle or a lamp. For the touch alone, no matter how educated or experienced, cannot decide this question.

It is not always practicable or expedient to inspect the tegumentary perineum at the close of labor; but the fact remains that these lesions within or through the vulva, and into the perineum more or less deeply, do really exist in a considerable share of cases. What that proportion is I cannot say. Perhaps in one labor out of four or five occurring in primipara they could be found if we should look for them very carefully. For the sake of your own reputation, as well as for the cure of your patients, I recommend you to examine these cases for yourselves, and not to trust to the *ipse dixit* of the nurse, or to your own post-partum impressions.

It is not unusual for physicians to insist that, in all their obstetric experience, not a single woman has been "torn;" and that, with the proper care, such a mishap may always be avoided. But, since we cannot vouch for the integrity of the perineal and vulvar tissues, and cannot always control the direction or the degree of the forces that are necessary to effect delivery, this claim is unwarranted. Lacerations on the vaginal surface of the fourchette especially, are the rule and not the exception.

Symptoms.—The physical signs of the laceration are easily made out. By placing the patient on her back and separating and flexing the thighs, the rent is easily exposed. The labia may be stretched apart and the posterior commissure found to extend toward the anus. If the case has become chronic, the pelvic organs will be prolapsed, and the degree of the cystocele and the rectocele will be in proportion to the duration, the extent and the depth of the laceration.

If some time has elapsed since the accident the margins of the rent will be cicatrized, and this condition of the surfaces may be a source of general ill health. For, while this heterologous tissue is often harmless, its presence in delicate, slender and nervous women especially, is likely to give rise to a series of reflex disorders that are impossible of cure, except by an operation for its removal.

Effects of cicatrization of the rent.

Treatment.—The treatment naturally divides itself into that proper for acute and for chronic cases. If you are called to a case in which not more than ten or twelve hours have passed since the accident, and before the margins of the wound have healed over, it will be a question as to whether you shall stitch it up or not. Some authorities will tell you that you ought always to resort to the suture, and others will insist that it is never necessary. Both are right and both are wrong in their extreme views. If the laceration does not extend more than from one-third to one-half of the depth of the perineum, and if you can depend upon the patient and the nurse to obey instructions; if there are epidemic diseases in the house or the neighborhood, or if there are other puerperal cases under the same roof, you had better not pass the needle through the tissues, but keep them in apposition by other means until adhesive inflammation sets in.

The immediate treatment in recent cases.

In such cases my own practice has been to cleanse the parts thoroughly with warm calendula water, carefully removing all clots, bits of fat and shreds, and then to mould the edges as carefully as possible so as to bring the tegumentary perineum into its proper position. Then I place a firm compress that has been moistened with a mixture of equal parts of calendula or of hamamelis, glycerine and warm water, against the perineum, and while the limbs are flexed, put two or three adhesive straps across the buttocks to keep the compress in position. This adjustment of the parts should be made with the patient lying upon her side. The compress may be freshened two or three times in twenty-four hours, and weak injections of calendula water may be given per vaginam once or twice daily until the wound is healed. The knees should be tied together, but not tightly, for the first forty-eight hours. The bowels should be let alone, the patient should lie upon her side, and the urine should be taken with the catheter.

I have practised this simple plan of treatment for almost thirty years, and am confident that in a great majority of cases it is quite sufficient. It may sometimes be supplemented by the use of serre-fines, which, if they are of the right kind and are properly adjusted, will keep the edges of the wound from slipping before they have healed. If the patient is very nervous and apprehensive, she need not know that they

The use of serre-fines.

have been applied, and the compress can be used at the same time.

The primary operation is not difficult unless the wound has passed through the sphincter ani, or involved the recto-vaginal septum, in which case it will be necessary to administer an anæsthetic and to proceed as we do outside of the puerperal state. Under these circumstances the operation is really contra-indicated, because of the exhausted condition at the close of labor, and because of the mischievous effect of the lochia in so extensive a wound.

The primary operation.

When, however, the degree of the laceration does not include the sphincter ani, or the septum above the apex of the perineal body, the wire sutures may be passed from the cutaneous surface and twisted as in the usual operation of perineorrhaphy.

The secondary operation, for chronic cases, ought not to be made until at least three months have elapsed from the date of the delivery, and six are better than three in most cases. The old rule was to wait until the child was weaned. The preparatory treatment for perineorrhaphy is to allay any existing local inflammation of the parts, to have the bowels thoroughly opened a day or two beforehand and the patient in a good general condition. In a few cases I have found it necessary first to obtain the control of a copious leucorrhœal discharge before operating, lest the flow should interfere with the union of the parts.

The secondary operation.

The operation is comprised in three steps: (1.) The freshening of the perineal angles; (2) the introduction of the sutures, and (3) the closure of the wound by the tightening of the sutures. The vivifying process is the same as that described for vesico- and recto-vaginal fistulæ, except that a much larger surface is freshened. In removing the cicatricial tissue care should be taken to avoid injuring the rectal mucous membrane. The patient being placed in the lithotomy position, with the nates drawn to the edge of the table in a strong light, and the anterior vagina lifted with a Sims' speculum, it is well to make an incision along the border of the space that is to be freshened, so as to mark the outline of the perineal body. When this is done on both sides, the membrane that covers the wound is dissected off carefully with the knife, or better still with the scissors, and no portion of it is allowed to re-

The freshening process.

main. If the laceration has extended to the septum above the perineal body, its margins will also need to be freshened, the same

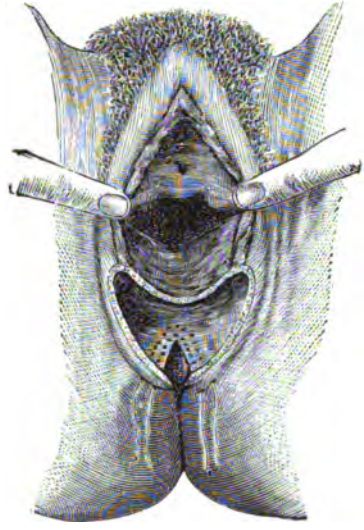


FIG. 166. Surface denuded in complete perineal rupture and first two sutures in position (Thomas).

as in recto-vaginal fistula. Fig. 166 represents the outline of this newly-made wound, in a case of complete rupture through the anal sphincter.

While these lateral triangles are being pared of their cicatricial tissue if there is much hæmorrhage, it should be controlled by the use of hot water, or, if there are spouting arteries, by Pean's hæmostatic forceps. The index finger of the left hand should be passed into the anus to assist in freshening the surface at the bottom of the furrow which separates the two halves of the perineal body.

The passage of the sutures.

The second step of the operation concerns the introduction of the interrupted sutures. Most authors prefer the silver wire, but they are not agreed upon the propriety of passing them through either of the three surfaces of the perineal body exclusively. Some prefer to introduce them from the cutaneous border only, others from the cutaneous and vaginal surfaces, and a few on the rectal side also. Here is a variety of needles that have been devised for the passage of the perineal sutures. I prefer a straight needle,

about one and a half to two inches in length, the point of which has been ground like a glover's needle. It should be of the best material and not too small. For the deep stitch in a complete laceration I use Péan's curved needle, which is something like Ashton's (Figs. 170 and 168) and which, having an eye in its point, allows it to be threaded after it has been passed. Dr. Bantock's method of suturing the perineal wound has a wide range in different cases and degrees of operation. It is well shown in Figs. 1-2

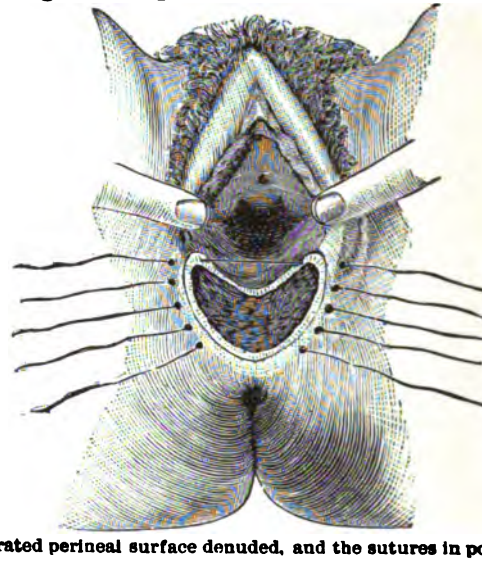


FIG. 167. Lacerated perineal surface denuded, and the sutures in position (Thomas).

Peaslee's needles (Fig.170), are better than Skene's (Fig. 171), being narrow and therefore less likely to cut the perineal vessels. Skene's needle is weakened at the point by the size of the eye, which cuts it half off. I had one of them break while being passed and was obliged to dissect out the fragment.

A new needle with a holder which is very useful in this and kindred operations is Reverdin's (Fig. 169). The careful introduction of the sutures is very important. Their course may be directed by the finger in the rectum. In case the sphincter is torn the two lower stitches should be hidden in the recto-vaginal septum. All the sutures should be passed and the wound thoroughly cleansed before any of them are tightened. In twisting them we always begin with the lower one and are very careful to adjust the lips of the wound most accurately. For this purpose it may be necessary to insert a few superficial sutures, which should be of cat-gut.

Some authors, notably Bantock, use the silk-worm gut instead of the wire sutures. Others employ the carbolized silk, but the wire is preferable. The mode of securing the silver wire in these cases is to twist and bend the sutures at right angles. The perforated shot and the bit of tubing through which they are sometimes passed are of no especial advantage.

FIG. 168. Péan's curved needle.

The after-treatment consists in tying the knees together with a roller and a compress between them; in having the urine drawn every four or five hours for the first day and night, after which it can be voided naturally; in limiting the patient's diet to nourishing soups and broths, and semi-solids; in keeping the bowels in a laxative condition by the use of small quantities of saline waters, to be repeated every alternate day; and having the patient's position changed from side to side. I think it very important to abstain from the use of washes and injections during the first

FIG. 169. Reverdin's needle.

thirty-six hours, after which the vagina may be gently cleansed by an injection of calendula, glycerine and warm water. This should be repeated every morning and evening until after the sutures have been removed. After the first forty-eight hours the patient is apt to complain of a drawing, burning and smarting along the line of the wound. This may be relieved by the direct application, over the wires, of a compress, which has been soaked in equal parts of the tincture of calendula and of glycerine.

Removal of sutures.

On the eighth or tenth day, unless she has menstruated meanwhile, the sutures may be cut and removed in the same manner as after the operation for vesico-vaginal fistula.

The result will be successful providing the patient is not scrofulous, or syphilitic, or the victim of a dyscrasia which has undermined her reparative forces, and providing the operation has been

properly made and she has had the proper care in the after-treatment. In old cases in which the perineal body is either absent or atrophied, the best result that can be expected or promised is a recovery of the control of the sphincter ani.

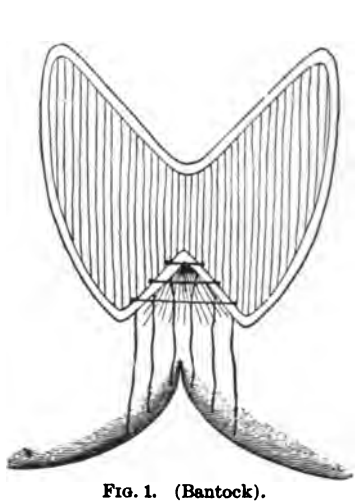


FIG. 1. (Bantock).

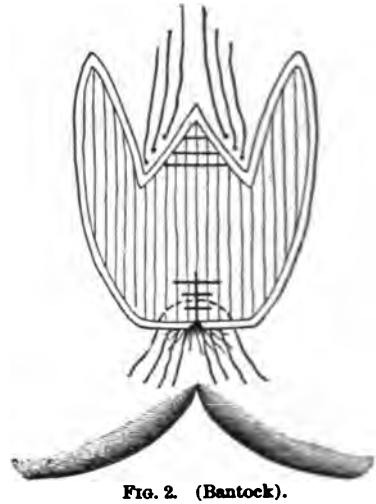


FIG. 2. (Bantock).

LAWSON TAIT'S METHOD OF PERINEORRHAPHY.

There was much force in the remark of Doléris in one of his recent clinics that he never made a perineorrhaphy twice alike. Either he used the continuous suture or did something different from what he had practised before. The original operation, as made by Brooke and Baker Brown has been variously modified,

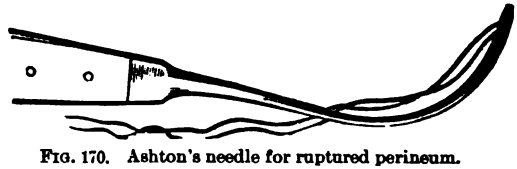


FIG. 170. Ashton's needle for ruptured perineum.

like the old obstetric forceps, without material improvement. The only exception to this rule is that of Lawson Tait, which, in many respects is a decided improvement on the old, or the "butterfly" method. It is particularly suited to the complete laceration which extends to a greater or less distance through the recto-vaginal septum, and to those in which the integrity of the perineum is sorely impaired.

The essential features of this operation are that there is no sacrifice of tissue in the freshening process. Instead of paring, or dissecting off the edges of the wound to make the necessary flaps, the raw surfaces are obtained by splitting the tissues. The cutting is done in the direction of the original cicatrix, and the surfaces which are to be opposed can be made as wide as the operator chooses. The sutures, which may be of raw silk or of other

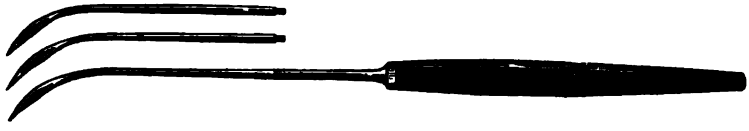


FIG. 171. Peaslee's perineal needle

material, are so placed that two of the flaps are turned into the rectum and two into the vagina. The septal stitches must be carefully placed or a fistula may result. Of the perineal stitches there should be at least three and usually four, and they should be introduced along the margin of the integument and not beyond it. They should emerge, or cross the chasm, at the line which separates the flaps.

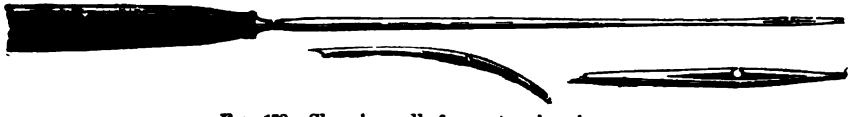


FIG. 172. Skene's needle for ruptured perineum.

I have frequently made this operation both in hospital and private practice, and am persuaded of its adaptation to some of the worst cases that come under the eye of the gynecologist. Indeed it has never failed in my hands to bring the desired relief. The following case is one in which it was entirely successful in a woman who had suffered a complete laceration of the perineum for more than thirty years.

Case.—Mrs. ——, aged fifty-five, was sent to the Hahnemann Hospital by Dr. W. H. Gibbon, of Chariton, Iowa. She had had eight children, the eldest of which was thirty-three, and the youngest twenty years old. Her first labor was a footling case, and the child was born at the end of four days and nights of labor under the direction, or the misdirection, of a country midwife. During the last two days of this prolonged labor the patient was in an unconscious condition. The delivery was finally accomplished by pulling the child forcibly away. The consequence was that the perineum suffered a complete rupture, it being torn

through the sphincter, and through the recto-vaginal septum to the extent of two inches or more.

Since that time she had had seven more children, each of the labors lasting from two to three days and nights. In the whole thirty-three years she had had absolutely no control over the escape of the fæces, or of flatus from the bowel.

The operation was set for October 6, 1881. The patient was put under the influence of ether, and Class No. 2 was admitted to the operating room.

There were also present Prof. Comstock, of St. Louis; Dr. H. N. Keener, of Princeton, and Drs. Dewey, Hislop and Reynolds. On careful examination the perineal tissues were so atrophied and shrunken that the perineal body could not be found. The laceration was Λ shaped, and its margins were of the same thickness from the apex in the recto-vaginal septum to the base of the wound. Consequently there was no surface which could be freshened as in the usual mode of making the operation of perineorrhaphy; and the retraction of the parts forbade the removal of tissue, which could not be spared in bringing the lips of the wound together.

Under these circumstances I determined to perform Lawson Tait's operation as the only expedient which promised a successful result. The incision was made very carefully and freely; the hemorrhage was controlled by hot water. The quadruple suture was passed with Mathieu's tubular needle; the rectal and vaginal flaps were adjusted carefully; a flexible catheter was left in the anus, and the patient put carefully to bed with the knees tied in the usual way.

The rectum and the vagina were washed out each day by small injections of tepid water, containing a little carbolic acid and calendula. The diet was laxative but nourishing, and no effort was made to lock the bowels. Portions of soft, fæcal matter were discharged with the injections occasionally; but the nurse observed that from the first no part of the injection ever passed through the wound from the rectum into the vagina, or *vice versa*. The urine was regularly drawn with a flexible catheter. The sutures were removed on the twelfth day, when, upon passing my finger into the anus, the sphincter grasped it firmly. The patient stated very frankly that for the first time in thirty-three years, she had been able to control the escape of flatus from the bowel, and the natural sensation of the parts had returned. Two days later the colon had been emptied by thorough enemata, and the patient felt so well that she wanted to go home.

October 27, just three weeks from the date of the operation, she was discharged cured, and left the hospital for her home in Missouri.

LECTURE LV.

THE PATHOLOGY OF OVARIAN TUMORS.

Varieties. 1. *Ovarian cysts:* Morbid Anatomy of; cyst-contents; the ovarian cell; Etiology:—Clinical history of; Symptoms; the subjective signs; adhesions; the physical signs, inspection, mensuration, palpation, percussion and auscultation. 2. *Dermoid cysts of the ovary:* Morbid Anatomy of; Etiology of; Diagnosis and Treatment. 3. *Fibroid tumors of the ovary;* their pathology and clinical history.

There are four general varieties of ovarian tumors; (1) ovarian cysts, (2) dermoid cysts of the ovary, (3) fibroid tumors, and (4) malignant tumors. The first three are usually benign, and consist of an extraordinary growth of the proper ovarian tissues; the last is malignant, and arises from cancerous deposition and degeneration.

Varieties.

I. OVARIAN CYSTS.

1. *Morbid Anatomy.*—Ovarian cysts are single or multiple, simple or compound. A monocyst is a single sac, and a unilocular tumor of the ovary is a one-lobed affair. Where there are two or more cysts the growth is multilocular. When the added cysts grow and multiply on the inner surface of the sac the tumor is endogenous; and when from its exterior, like sprouts on a potato, it is exogenous. The original sac is sometimes styled the parent-cyst and the others are the child-cysts. In number there may be an hundred or more of these proliferating cysts, whose aggregate weight may vary from a few ounces to a hundred and fifty pounds. In February, 1878, I removed an ovarian tumor weighing eighty pounds, and the patient made a good recovery.

The thickness and strength of the cyst-wall varies in different cases. Single cysts are more apt to be thick and fibrous than are those which are multiple; and older ones are usually thinner and more fragile than the younger cysts.

This arises partly from their distention and partly from the corrosive action of the contained fluid. Hence the danger from the rupture of an old, parent-cyst. Sometimes the wall of the sac will be thin in one place and thick in another. If its thickness increases as time goes on it is probably sarcomatous.

The vascular supply to these growths is furnished through the fibrous capsule of the cyst. Only their external surface is supplied with blood vessels. This is a fact of which advantage is taken in the enucleation of unilocular cysts. Sometimes the veins on the surface of the cysts are large and tortuous, which is usually regarded as a sign of their malignancy.

The character of the fluid contained varies in the different cysts which compose the same tumor, and in the same cyst, if it has been repeatedly tapped. The oftener it is emptied the more depraved the quality of the fluid. In polycysts, one small sac may contain a clear, amber-colored serum; another, a honey-like fluid; a third, blood; a fourth, a stinking pus; a fifth, the brown or chocolate fluid, and in others, two or more of these products may be mixed. Sometimes the contents are so thick and gluey as not to flow at all, a condition which belongs to the colloid cyst.

The cyst-contents.

Ovarian fluids of every description have a common characteristic which is that they are of a sticky, glairy or ropy character, and more or less viscid and gelatinous. Méhu attributes this peculiar quality of the ovarian fluid to the presence of paralbumen.

When examined chemically this fluid is found to contain albumen, paralbumen and metalbumen. It does not contain fibrin unless the ovarian is mixed with ascitic fluid, or unless the cyst from which it came is of the dermoid variety. Doran says: "The glairiness, or yellowish-gray coloration of ovarian fluid, is a physical characteristic, practically sufficient for diagnosis from ascitic fluid. Chemical tests for ovarian fluids are not satisfactory, and are of a kind unsuitable for the surgeon who cannot keep up more than a superficial knowledge of the science of chemistry, nor carry spectroscopes and other apparatus about with him; nor are medico-chemical authorities yet agreed upon a perfect test for ovarian fluid." So that the proposition once endorsed by Spencer Wells, to detect the presence of paralbumen in a suspected fluid by coagulating its albumen by boiling it, and re-dissolving the coagulum by adding double its volume of strong acetic acid and then boiling it again, cannot always be relied upon. The specific gravity of ovarian fluids varies from 1006 to 1020.

When you can find it, the recognition of the Drysdale, or granular cell in an abdominal fluid that is examined microscopically, is strong presumptive evidence of its ovarian origin. But the micro-

chemical properties and the true clinical import of this cell are not yet fully determined. It is spherical, sometimes oval, of a yellowish tint, with a very delicate envelope, which upon the addition of acetic or of phosphoric acid, becomes transparent, so that its glistening granules are easily seen through the cell wall in the shape of five or six bright shining points. It is a little larger than a pus corpuscle, and has the distinguishing peculiarity that the addition does not dissolve its granular contents, as it will in case of the inflammatory corpuscle of Gluge.

The ovarian cell.

Drysdale insists that "this granular cell may be distinguished from the pus-cell, lymph-corpuscle, the white blood-cell and other cells which resemble it, both by the appearance of the cell and by its behavior with acetic acid."

Other authorities are, however, equally emphatic in support of the opposite view. Thus Angus McDonald says: "The general character of the fluid, with the peculiar cells referred to, can hardly lead to a mistake, although it is to be remembered that the cells mentioned are merely evidence of rapidly proliferating epithelium, and may occasionally be obtained from fluid secreted in such a cavity as the pleura." Garrigues affirms that, "The large rounded cell-masses found in the cyst-fluid, Bennett's large corpuscles, are epithelial cells in fatty degeneration; while Bennett's small corpuscle, or Drysdale's granular ovarian cell, is no cell, but the nucleus of an epithelial cell in a state of fatty degeneration. There is no pathognomonic morphological element in an ovarian fluid." And Lawson Tait settles the question for himself and his followers by the following characteristic statement: "In fact, I place no reliance on the presence or the absence of these cells in a fluid removed by tapping, and as I never tap removable tumors at all now, I never have any occasion to look for them, or any opportunity."

The microscope also detects pus and blood corpuscles, coloring matter, fat globules and cholestrine, which is an almost invariable constituent of this fluid. Its proportion is sometimes very small, and on account of certain peculiarities that pertain to its crystalization, it may be difficult to find it. Sometimes, however, it is present in such a quantity as to form a thin, glistening pellicle on the surface of the fluid.

2. *Etiology.*—While on account of its follicular anatomy there

is no other bodily organ which is so liable to cystic degeneration as the ovary, it is not always possible to find an adequate cause for the existence of these tumors. They occur in women of all classes of society, but are most frequent among those whose surroundings are unhealthy, whose diet is meagre, and who are exposed to hardships of various kinds. In quite a share of cases they happen in cancerous and tuberculous subjects. Indeed some form of cancer, or of phthisis has so frequently developed within a few months, or a very few years after I have removed an ovarian cystoma, even where such a dyscrasia had not been known or recognized beforehand, that I have come to be suspicious of their causative relation.

Quite a share of these cases can be traced to some local injury. One of my patients had a multilocular cyst in consequence of falling through the head of a barrel upon which she was standing. Another was jammed and injured in the abdomen by a runaway horse; and a third was kicked in the left inguinal region by a brute of a husband, after which a tumor of this kind soon began to grow. In other cases the traumatic cause is a strain from lifting, as in carrying coal or water up-stairs, when "something gives way" and the trouble with the ovary begins. While it may happen that different members of the same family shall have ovarian tumors from accidental causes, the rule is that when these growths are hereditary they are either malignant or tuberculous.

3. *Clinical history.* — Although these tumors may occur in infancy and childhood, and are not infrequent after the climacteric, they are most common during menstrual life, or between the ages of 30 and 40. Their average duration is about three years, but they often begin their course so insidiously and develop so slowly that the date of their origin cannot be fixed with certainty. In 1880 I removed a compound ovarian cyst weighing fifty-six pounds which had been growing steadily for eleven years. In another of my cases a single cyst weighing forty-one pounds had appeared and developed within four months. Unless the cyst is single the more rapid the growth of the tumor the greater the chance of its being malignant.

4. *Symptoms.*—The first symptom to attract the attention of the patient is the appearance of a swelling or of a "lump" in the right or the left inguinal region. Usually, but not always, she is very decided as to the early location of this growth. She will have observed that it is movable and painless, and that in changing the

position of her body it disappears so that she can not always find it. This tumor may be tender at the month, and sometimes causes pain by pressing upon the sacral nerves. Any rough riding or jouncing, jumping, or straining at stool may excite nausea or cause her to vomit; but aside from these symptoms the swelling may exist for months, and possibly for years, without causing any serious impairment of her health.

In due time, however, the tumor increases in size, and grows toward the mesian line, the opposite side of the abdomen, and toward the umbilicus. Sometimes the sac fills very rapidly, and the strength fails in a corresponding ratio. The function of menstruation is variously affected. In a small share of cases the flow is suspended quite early, and the patient is sterile. Others have a temporary amenorrhœa, with a decrease of the flow and an increase of suffering. If the tumor is not traceable to a traumatic cause, there will almost always have been a history of dysmenorrhœa. These patients are often exempt from leucorrhœa, but perhaps one in ten or twelve of them may have had menorrhagia.

The subjective symptoms in a growing ovarian cyst are such as we might expect from a distention of the abdomen and from pressure upon the adjacent organs. Whether the bladder, the rectum or the uterus is most seriously disturbed in its functions will depend upon the direction which is taken by the developing tumor, and the degree of pressure upon the said organs. In the early stages, before the cyst has mounted into the abdomen, these pelvic organs often suffer more than they do afterwards. Later on, when the uterus is retracted, as it almost always is, the sense of weight below the brim of the pelvis is relieved, and, if one of the sacs is not anchored within the retro-uterine space, the rectal symptoms disappear. If the patient has borne one or more children, the abdominal parieties will yield to the expanding tumor without any great feeling of distention or discomfort, until the freedom of the diaphragm is interfered with. But if these walls are put upon the stretch for the first time by the rapidly filling cyst, the patient will necessarily feel more pain than she otherwise would. In some of these latter cases, where there is an intolerance of the ovarian growth, symptoms analagous to those of pregnancy are present.

The subjective signs.

One of the contingencies of the growing tumor is a tendency to repeated attacks of local peritonitis. This plastic inflammation

seals it to the neighboring tissues and organs, and not only increases the amount of suffering from time to time, but augments the danger from ovariotomy.

Adhesions.

Adhesions to the omentum, the intestines and the liver, are especially apt to involve the digestive function; while the anchorage of the tumor and its increasing growth may cause an inveterate pain in the lumbar region, obstinate constipation, albuminuria, uræmia, dropsy of the lower extremities and cardiac oppression. Dr. Fenwick* gives three symptoms as indicative of a serious cardiac involvment from this peculiar cause. These symptoms are, (1) a very feeble, rapid, and excitable pulse; (2) very dull and feeble heart's sounds, especially marked over the right apex; (3) and a very short systolic rise in the sphygmographic tracing. In some cases he also noted a great tendency to syncope.

The ultimate tendency of the growth is to induce exhaustion of the physical forces, emaciation, and a pronounced cachexia. The features become shrunken, the face and expression are somewhat peculiar, and hence the *facies ovariana* which was once thought to be pathognomonic of this affection. The tumor grows at the expense of the other bodily tissues, and there is finally a remarkable disparity between the size and form of the extremities and of the abdomen. In case of hemorrhage, or of suppuration within one or more of the cysts, there will be signs of collapse, or of hectic with chills and rapid prostration.

The objective or physical signs are more clear and satisfactory. Beginning with *inspection*, we observe that the tumor may or may not be symmetrical. The side upon which the swelling was first noted is usually, but not always, the more prominent. If the distention is considerable, the form of the abdomen is peculiar in that its shape does not alter when the patient changes her position. It's profile is unvarying. The umbilicus may be deflected, but it is not retracted or depressed, nor does the region about it become flattened on the top when the patient lies down. In old cases the abdominal walls are stretched and attenuated, and the muscular fibres spread apart, as in advanced pregnancy with twins, or dropsy of the amnion, and the veins stand out prominently at the sides of the tumor. Exceptionally, when there is an unusual deposit of fat

The physical signs.

*On intra-abdominal tumors as a cause of Cardiac Degeneration. *British Gynecological Journal*, vol II, page 72.

beneath the muscles, the striæ are not to be seen upon the integument. In oligocysts, where there are but two or three large sacs, the lines which separate them may sometimes be easily recognized; and the sulci between the solid and the cystic portions of certain ovarian tumors are quite significant. I have learned to place more confidence in the physiognomy of the abdomen as a sign of these tumors than I have in the face itself, although one may indeed help us where the other fails.

By *mensuration*, the size and certain relations are easily made out. The measurements usually taken are from the xiphoid cartilage (which may be deformed) to the umbilicus, and thence to the upper margin of the symphysis pubis. This is the perpendicular diameter, and recalls Professor Simpson's rule that, if its length below the umbilicus exceeds that which is above it, providing the case is well developed, the tumor is uterine, and not ovarian. Next comes the girth around the body and over the most prominent part of the tumor; and after that the oblique measurements, which extend from the umbilicus to the anterior superior spinous processes of the right and left ilia. These measurements should be recorded on the spot.

Palpation, or the external touch, gives an idea of the abdominal heat and tenderness, the mobility of the investing integument and of the tumor, the simple or composite character of the tumor, its softness or hardness, the course of its outline, its compressibility, and of the sulci between its component cysts. If the abdominal parieties can be grasped by the handful, the growth is not a large one; if the latter can be carried upwards beneath the umbilicus, the tumor is not uterine.

Bimanual examination shows that, if the cyst can be moved about without changing the position of the uterine cervix, it is probably ovarian. It is not very unusual for the neck of the womb to be so drawn up by the developing cyst as to be beyond the reach of the finger. I have now, 1887, made six ovariotomies where the uterus was so retracted and changed in its contour that it could not be felt or found before the operation. Three of the cases were benign, and made a good recovery, the other three were cancerous and fatal.

Percussion is invaluable because it serves to mark the outline and certain physical characters that are peculiar to the cyst and its contents. The tendency of these tumors to come forward, to

lie against the abdominal parietes, and to push the intestines with their contained gases upward and backward, out of the way, makes it possible by this means to map out these tumors and to decide whether their contents are fluid, solid or mixed. By it we can detect the water-line, and the fluctuating wave-line; can often tell whether the serum is contained in a single or in numerous compartments; can judge of its tenuity or of its thickness, and whether the case is complicated with ascites or some other incidental affection. (See Figs. 17, 18 and 19.)

Abdominal *auscultation* being more applicable and serviceable in the detection of solid tumors has little more than a negative merit in cases of ovarian dropsy.*

II. DERMOID CYSTS OF THE OVARY.

1. *Morbid Anatomy.*—These cysts are the most curious of all morbid productions. Their chief peculiarity is found in their contents, which consist of a comparatively small quantity of fluid mixed with such growths and foreign substances as are never found in other ovarian tumors. These foreign bodies consist of hair, teeth (of the bicuspid variety when they are numerous, and of the canine when not numerous), of bits of alveolar processes with teeth in them, of rudimentary teeth which are set in cartilage, of flat bony plates and spiculæ, of finger nails, of skin with its component parts, and vessels filled with morbid deposits or sebaceous secretions, of nerve tissue and striped muscular fibres, of scales of cholestrin, and fat in considerable quantity, which may be as firm as lard or tallow, or oily and beaten up like a pomade. Sometimes the cyst is a suppurating one and may furnish a large quantity of pus, but if the quantity of pus is small it may have been replaced by a putty-like material resembling Chinese white.

It is a singular fact that these dermoid tumors of the ovary may exist in infancy, and even in the fœtus in utero. They often occur in young women, and are seldom seen in those who have passed forty. Doran cites a case in a woman aged 63, and Atlee one that was without a pedicle in an unmarried lady of 79, and who had carried the tumor for forty-seven years. They are almost always congenital, but remain latent through childhood until after puberty. Sometimes the occurrence of pregnancy stimulates their growth, after which they may occasion pressure upon the neigh-

*For the Differential Diagnosis of Ovarian Cysts see Lecture LVII.

boring parts. It is only, however, when the tumor is solid, or when its walls are thick and firm, that it causes any considerable pain or discomfort.

A single compartment of a compound dermal cyst of the ovary may contain such a medley of morbid products as I have named, while the remaining sacs are filled with the ordinary ovarian fluid. We occasionally find some of these foreign matters in multilocular tumors of the ovary.

2. *Etiology.*—I have elsewhere treated of this subject in the following manner:*

These peculiar tumors "were in times past looked upon as inexplicable marvels, and not only had their entry into museums as treasures, but were described with scrupulous verbosity. There is, however, nothing more extraordinary in them than in the appearance of bone in the gluteus, or imperfect brain-like matter in the substance of the mammary gland, or fibrous nodules in the lobes of the cerebrum. Their chief surgical interest is in the obscurity they throw over diagnosis, and in the complications they occasion. (*Spencer Wells.*)

Various theories have been proposed in explanation of the origin of these cutaneous tumors of the ovary. The most popular was that of fœtal inclusion, a *fœtus within a fœtus*, which referred them to the blighting of a twin-fœtus, and its inclosure within the ovary of its mate, while the latter underwent the proper development and came to maturity. Another idea was that the contained morbid products could only have resulted from the impregnation of the patient; or in other words, that a dermoid cyst of the ovary was of necessity the result of an extra-uterine pregnancy. A third was that of parthenogenesis, or the development of an ovum without impregnation; and a fourth referred to incomplete embryonic development of the epithelial cells of the ovary itself. But such speculations are fanciful and not profitable. The conclusion of a recent writer on this subject commends itself: "I think the best solution of the question is that of the invagination of the blastodermic membrane, the external layer of which develops the organs of animal life. If, therefore, there should be an inclosure of any part of this membrane within any organ of the body, these epidermal formations would readily be produced." (*Helmuth.*) "The dermoid ovarian cyst question appears to me to be closely and

*Arndt's System of Medicine, vol. II, page 365.

inseparably linked with some of the most profound mysteries of organic life." (*Doran.*)

3. *Diagnosis.*—The fact that these dermal tumors may be carried for a long time without any very decided impairment of the general health, and without attaining any great size, as well as their firmness and solidity when their wall is thick and when they are filled with solid or semi-solid contents, has frequently caused them to be mistaken for uterine fibroids. Unless there is inflammation in some of their structures, or pressure by them upon the neighboring organs, both these kinds of tumors are insensible and painless, of slow growth and innocuous, and both may undergo cystic or sarcomatous degeneration. But there are, however, a few points which may serve to differentiate them. With the fibroid growth there is a history of a coincident menorrhagia; the tumor has very little tendency to anchor itself through inflammation of its capsule, or of its investing peritoneum; and it is very rare indeed for it to undergo the process of suppuration. On the contrary, the dermal cyst is seldom accompanied by a profuse menstruation; it almost always becomes immobile through adhesive inflammation, and it is very prone to suppurate. Most uterine fibroids which have attained a considerable size grow decidedly larger with the return of the monthly period, and afterwards diminish with the decline of the flow, which is not true of these cutaneous cysts. Although it may be present, ascites is not a common accompaniment of uterine fibroids, while it is almost never absent in a dermoid cyst of the ovary which is large enough to claim our professional attention. When the dermoid cyst is located either in the posterior or anterior cul-de-sac, or anywhere at the roof of the vagina where it is accessible to the touch, there is almost always a perceptible fluctuation. This is not true of uterine fibroids.

When these clinical points are not sufficient to enable us to decide between them, it may be expedient to resort to tapping by the aspirator-needle, the careful introduction of which will help to determine whether it has passed into a sac or into a solid growth: while, if any fluid is withdrawn, it may serve to settle the character of its contents. If the fluid contains hair or epidermal scales, or if it resembles candle-grease or melted-butter, after you have forced it from the barrel of the instrument into a glass, and especially if it solidifies so that you can turn the glass upside-down

without spilling it, and dissolves again by placing the glass in warm water, the diagnosis is clear. (*Laroyenne.*)

The reduction in the size of the tumor by this species of tapping, and the facility with which it refills, are characteristic and confirmatory. It is important to remember that if the needle strikes upon a bony structure, or even if bits of bone, teeth, and the like are discharged through fistulous openings in the rectum, the vagina, the bladder, or the abdominal parieties, the case is not necessarily one of extra-uterine pregnancy. Mistakes of this kind have often been made, and have sometimes given rise to social unhappiness when it should have been prevented.

Since a dermal growth may be composite, and may have one or more cysts, which contain a proper ovarian fluid, and since one ovary may be the seat of such a growth while the opposite one has undergone the ordinary cystic degeneration, the mere removal of a quantity of ovarian fluid by tapping does not preclude the possibility of a dermoid cyst. In these cases the diagnosis must be settled by the exploratory incision, or by ovariotomy.

III. FIBROID TUMORS OF THE OVARY.

1. *Clinical history.*—There are three points of interest in the study of fibroid tumors of the ovary: (1) their variety, (2) the difficulty of their diagnosis by any means short of the exploratory incision, and (3) their proper surgical treatment. Of their variety we may justly say that they have been found more often by the pathologist than by the gynecologist, in the dead than in the living. Until quite recently most operators have decided with Atlee that "when a tumor possessing the usual characteristics of a fibroid is found in the abdominal cavity, we may, as a general rule, decide it to be uterine." The aversion to cutting down upon a fibroid, and the tradition that while cystic growths were removable with comparative safety, the excision of fibroids, whether of the uterus or of the ovary, was unaccountably and almost universally followed by a fatal result, has caused many an ovarian fibroid to be overlooked. Now that laparotomy has put a window in the abdomen we shall probably see more of these peculiar growths, and remove them too, with safety to our patients.

Their comparative rarity.

Another dictum which has hindered and yet hinders the recognition of ovarian fibromata in certain cases is the statement that

they are always of a small size, and that a large abdominal fibroid must necessarily be of uterine origin. Even Tait endorses the statement of Peaslee, who says that: "Fibroids of the ovary are *very* rare, and do not often exceed the size of a goose-egg." But Greig Smith* reports having "successfully removed a solid ovarian tumor as large as a child's head, in which repeated examinations by competent histologists failed to show any other histological element than pure fibrous tissue." And Dr. Mann has been equally successful in extirpating an undoubted fibroma of the ovary that weighed seven pounds.† Doran gives a very interesting cut of a myoma of the ovary, which had been growing for eight years, which was successfully removed by Sir Spencer Wells from a single woman aged sixty-eight, and weighed 15 lbs. 2 oz. (See Fig. 173.)

FIG. 173. Myoma of the ovary. (Doran.)

2. *Morbid anatomy.*—The first five of the conclusions of Dr. Coe in a remarkable paper on "Fibromata and Cysto-fibromata of the Ovary"‡ include all that you will need to know upon this part of my subject. They are as follows:

1. Fibrous tumors may and do arise from the ovary, independent of the uterus or the other adnexa.

2. In structure these tumors are true fibromata, yet peculiarly rich in long spindle-cells, which closely resemble those of the normal stroma; hence,

3. These fibromata originate, not by a local change, but as the

*Abdominal Surgery, by J. Greig Smith, etc., etc., 1887, page 130.
†The American Journal of Obstetrics, etc., May, 1887, page 451.
‡Ibid, Vol. XV., 1882, page 876.

result of a general hyperplasia of the ovarian stroma. Moreover, there is nothing to show that this process is of an irritative, or inflammatory character.

4. The resemblance between microscopic sections of ovarian and uterine fibroids is so close that the differential diagnosis is very difficult, if not impossible.

5. Cysto-fibromata of the ovary, like those of the uterus, are of secondary formation, and result from changes in previously solid tumors.

3. *Diagnosis.*—If the patient is intelligent and is quite positive that the hard swelling or "lump" was first detected in the inguinal region, or that it developed from that quarter, or that it has always inclined to either side of the pelvis, the fact is suggestive of its ovarian attachment. If it is, and has always been, very movable, rolling about whenever she changed her position from side to side, the symptom is confirmatory. If the growth is painless, or nearly so, and accompanied by dragging sensations, and downward pressure when she is standing; but more especially if the tumor has a rounded outline, a smooth surface, a hard and firm texture; if it can be moved independently of the uterus, and if it is accompanied by an ascitic accumulation, the subjective symptoms may be said to be pretty well marked. They are not decisive, however, for the same symptoms might be present in an extra-uterine fibroid that was attached by a slender pedicle to the front or to the side of the uterus. There is this difference between them, that while the ovarian fibroid is almost always accompanied by ascites, the uterine myoma is not; and that, while the former does not give rise to menorrhagia, the latter almost invariably does. The signs revealed on auscultation are the same in both cases. It rarely happens that both ovaries are the seat of fibrous growths. More often one ovary is cystic and the other solid.

Laparotomy as a diagnostic resource.

It is well to remember, however, that the most expert and experienced gynecologist can not always make an absolute diagnosis of an ovarian fibroma without a resort to the knife. The exploratory incision will not only enable us to complete the diagnosis, but to determine whether it is expedient to remove the tumor. (See Lecture LVIII.)

LECTURE LVI.

THE PATHOLOGY OF OVARIAN TUMORS.—CONTINUED.

Malignant tumors of the ovary.—1. CYSTO-SARCOMA. *Case.* Physical signs. Rupture of the sac. The rule for tapping. Aspiration. Differential diagnosis. Ovariotomy. 2. CYSTO-CARCINOMA. Clinical history; Symptoms; Diagnosis. 3. SCIRRHUS OF THE OVARY; History and symptoms. 4. COLLOID OR MYXOMA; not always cancerous. Tait on malignancy of. 5. PAPILLOMA, EPITHELIOMA AND CAULIFLOWER DEGENERATION OF THE OVARY. *Case.* 6. ENCEPHALOID OF THE OVARY. *Case.*

IV. MALIGNANT TUMORS OF THE OVARY.

With very few exceptions malignant tumors of the ovary are composite, or partly solid and partly cystic. Usually, but not always, the solid portion is the first to be developed. The cystic portion is certain to become the more bulky of the two. The clinical varieties of these malignant ovarian tumors are (1) cysto-sarcoma, (2) cysto-carcinoma, (3) scirrhus, (4) colloid, or myxoma, (5) papilloma, epithelioma and cauliflower degeneration, and (6) encephaloid of the ovary.

1. CYSTO-SARCOMATOUS, OR FIBRO-CYSTIC TUMORS OF THE OVARY.

The several important points in the history and diagnosis of this kind of ovarian tumors are the comparative slowness of their growth until the cyst has formed and is partly filled; the irregular shape of its solid portion and its recurrent tendency after it has been removed; its disposition to mass the womb with the tumor so that it cannot be identified, and the refilling of the sarcoma-cyst or cysts, which are sometimes very large, after they have been tapped.

The following case was sent to the hospital by Dr. E. D. Kanouse & Son, of Appleton, Wis., and the remarks appended constituted my clinical lecture upon it, delivered in the hospital February 19, 1885:

Case.—Mrs. ——, married, aged forty-six, has conceived only once, which occurred twenty years ago. The child was still-born. She enjoyed comparatively good health until fourteen years ago, when an enlargement was observed in the left ovarian region. This enlargement grew slowly for a period of five years, giving rise to no special inconvenience. The abdomen had attained a circumference of between thirty-six and thirty-nine inches, when she

received a fall, soon after which the abdominal enlargement diminished. From this sudden disappearance of the tumor it was supposed that it must have been ruptured by the fall. No perceptible discharge occurred, neither did the patient suffer any special shock or inconvenience, saving a slight weakness for a few days.

Following this accident, an enlargement appeared in the right ovarian region, developing quite rapidly for eighteen months, when it also was ruptured spontaneously. At this time a very small quantity of a thin, inoffensive fluid escaped per vaginam.

This sac apparently refilled, and in one year more ruptured again; the abdomen decreasing in measurement within about twenty-four hours, from a circumference of forty-one to twenty-two inches. At this time there was a clear, inoffensive, syrupy exudation from the skin, necessitating a constant sponging of the patient for three days and nights, and then it gradually disappeared. No serious illness followed, and she was about as usual, after the lapse of ten or twelve days.

But this did not end her trouble, for soon it was noticed that the tumor was again developing. The progress of this growth has been very much slower than that of the preceding two, having covered a space of six years in attaining its present size.

During the last five years the menstrual periods have been very irregular. The flow is copious, dark-colored and clotted, lasting as a rule for ten days, and being preceded by and accompanied with intra-pelvic pain, notalgia and cephalalgia; and during the past two years the discharge has had an extremely offensive odor. She occasionally has slight pelvic pains during the inter-menstrual period. The urine is normal; the bowels are constipated; the œdema of the lower limbs is quite marked.

Her mother died at the age of fifty-six of cancer of the womb, and an aunt, her mother's sister, died of some morbid growth of the stomach; but with these exceptions the health of the family seems to have been good.

Physical signs.

I will not repeat what has already been said and shown you, concerning the different methods of physical diagnosis in abdominal tumors, but proceed at once to discuss the peculiar clinical features of this case. Observe that percussion gives a singular outline to this contained growth. I will mark it with a pen, so that you can all see it. While its margin on the left side, and transversely below the thorax, is rounded, it gives us a triangular patch of resonance on the right side, the apex of which points across the abdomen, and nearly reaches the mesian line, about half-way between the umbilicus and the pubes. (See Figs. 174-5) Such irregularities of outline, and there is a variety of them, almost always signify that the

tumor is composite. That this tumor is partly cystic is shown in the history of its having been ruptured, as well as by a perceptible fluctuation, especially at its left and superior portion.

Although you are aware that the womb is usually drawn upward and forward in ovarian tumors, it may surprise some of you to learn that it cannot be felt or found, per vaginum, in this case. When the uterus is lost in this way it may be a good or a bad sign. It is always an obstacle to diagnosis. It may have adhered to the wall of an ovarian cyst, and been retracted as the sac has developed, and no harm come of it; but if it is included and imbedded in a solid growth which lies above the superior strait, the case is very different. We shall see.

But what of the repeated rupture and the disappearance as well as the refilling of this tumor? Briefly, there are three kinds of rupture which may either temporarily or permanently dispose of the fluid contents of an ovarian cystoma: (1) there may be a leak through which the fluid is discharged very gradually; or (2) there may be a breaking down of the partition walls of a multilocular cyst, so that its compartments may communicate, and the shape and size of the tumor be changed; or (3) it is possible to have a large-sized rent through which the fluid may be poured into the peritoneal cavity. The cause for either of these kinds of rupture is atrophy or distention, or both, and not ulceration of the cyst-wall as is generally supposed.

Rupture of the sac.

A considerable share of these cases of spontaneous rupture recover, and the cyst does not refill; but others are fatal. You should remember, that when the first rupture is not accompanied by shock, or followed by illness, and especially if there is no reaccumulation of its fluid contents, the tumor is a cyst of the broad ligament, or something else, and not a proper ovarian cyst.

Not only does the true ovarian cyst fail to disappear by a spontaneous evacuation, or even by a single tapping, but it is peculiar in another respect, which is that every time it refills its contained fluid becomes more depraved in quality, so that, although such a cyst might possibly break for the first time and pour its innocuous contents into the peritoneal cavity without harm, this thing could not be repeated very often with impunity. We do not know, and nobody knows what kind of fluid escaped from this sac when it collapsed the first, or even the second time that it yielded; but

if this last accummulation is ovarian, it is next to impossible that it should not be vitiated.

The irritating and poisonous qualities of the ovarian fluid, especially if it comes from an old sac, are known to you. When such a tumor has been tapped a very few times it becomes septic in a high degree, and this is why repeated tapping increases the risks of a subsequent ovariotomy. Providing death does not follow from shock, or peritonitis, or hemorrhage, or from all these, an early or a repeated rupture of the cyst-wall will have the same effect.

From this point of view, therefore, you perceive that, since this growth has so nearly attained its maximum size, or the point of distention at which it burst on two former occasions, our patient is really in a perilous condition. On the theory that the fluid which fluctuates beneath my hand is very poisonous, it should not be permitted to escape into the abdomen; for the greedy lymphatics, of which the peritoneum is almost entirely composed, would absorb it and develop a speedy and fatal infection.

There is another reason why I have brought this woman before you, which is to illustrate the impossibility of making a satisfactory diagnosis in some of these cases without a resort to tapping, or to the exploratory incision. The former of these final methods of diagnosis has been very much abused—abused by those who have practised it without the proper discrimination, and whose carelessness has greatly increased the mortality from ovariotomy; and more recently abused by a few leading specialists who go to the other extreme, and who insist that it should no longer be practised under any circumstances whatever.

The rule for tapping.

Now there are several good reasons why, in my judgment, tapping is advisable in this case, which is certainly an exceptional one. They are (1) to avoid the imminent risk of another rupture, for the circumference of the abdomen is thirty-nine and a-half, instead of forty-one inches; (2) to remove the fluid in order that it may be examined; (3) to get it out of the way of a further physical exploration; (4) to decide whether the tumor is wholly cystic, or if it is composite, and if possible, to find the whereabouts of the womb; and (5) to enable us to decide intelligently whether, and if so, what further operative treatment is expedient and necessary.

Tapping is usually a very simple operation, but in such a case as this we must proceed cautiously. With the form and outline

of this tumor, and this acute angle of resonance coming so near to the mesian line, we might puncture a coil of intestine; or, if the cyst-wall happens to be very weak and attenuated, it may leak around the needle, or the canula, or possibly fail to close the orifice when the instrument is withdrawn. It will be safer, therefore, to use the aspirator than to take the ordinary trocar, although it may happen that the fluid is too thick to flow through its slender needle.

The patient is sensible and intelligent, and is quite willing for us to do whatever is best. We will, therefore, try the aspiration as a means of relief to her and of information and help for ourselves, but not as a curative measure. Having selected a point on the linea alba one-third the distance below the umbilicus, the skin is touched with a strong solution of carbolic acid to anæsthetize it, and as an antiseptic precaution. In passing the needle I feel that it enters a cavity and is fairly within the compartment containing a fluid. My assistant exhausts the air-chamber of the instrument, and you will see in a moment what kind of fluid fills the sac, and whether my prediction that it is bad enough is verified. I turn this little stop-cock, it flows freely, and you can all see that it is of a *dark chocolate color*. It is morally certain that, if this fluid had escaped into the peritoneal cavity, the risk of malignant infection would have been very great. I do not see how she could have survived it.

Aspiration.

The aspirator empties these large collections very slowly, but it is a safer instrument than the old trocar, not only because there is no possible admission of atmospheric air into the sac, or the tissues, but because the discharge is so slow that it prevents shock, and permits the abdominal organs gradually to accommodate themselves to their change of position.

We have now emptied the tumor of its fluid contents, *eleven and a-half pints* in all of this chocolate-looking mixture, and I am going to withdraw the needle. This fluid is all of one kind, which is evidence that we have to do with a single sac, and we may learn something by the careful removal of the needle. Observe that I hold it in a peculiar position so that I may know if the sac has collapsed, and may be able to indicate its place of attachment when it drops from the point of the needle. She will now be carried to one of my private rooms in the hospital, where she will have every care to prevent any ill-effects from this operation; and if every-

thing goes on well, I will complete the examination and the diagnosis in this amphitheatre in a few days, or as soon as it can be done with safety.

Monday, February 23.—Our excellent house physician, Dr. Eddy, has had such a care of our patient that she has escaped all harm, and I have had her brought before you again. You will observe the difference in the contour of the abdomen. The enlargement at its upper part has disappeared, the belly is hollowed out, and the line of dulless is horizontal, passing transversely about one-third of the distance below the umbilicus. Above this line the abdomen is resonant, below it the sound is flat; above it the distended sac has collapsed and disappeared, below it the

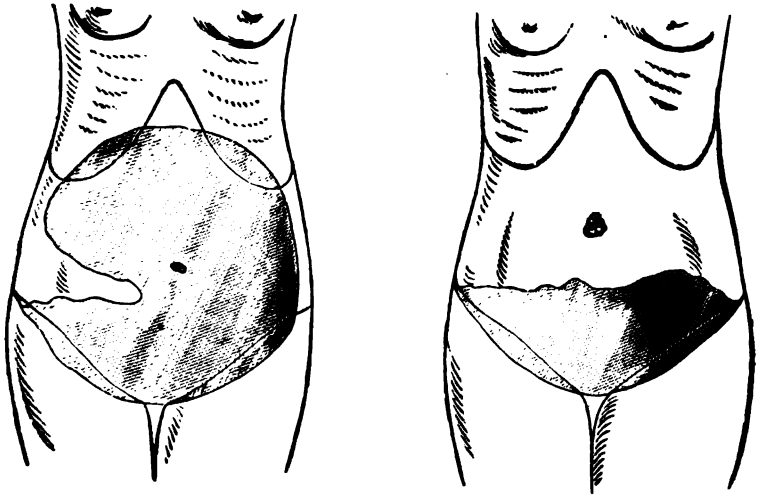


FIG. 174. Ovarian cysto-sarcoma before and after tapping.

tumor that remains is solid and immovable. The uterus can not be identified, either internally or externally. The mass is irregular, not rounded like a benign fibroid, and not sensitive as it was at the close of the tapping.

The patient has stated one fact not contained in the record of her case, which is that, directly after the rupture of the sac, six years ago, the abdomen "was as flat as that of a young girl," and that there was no sign of any remaining tumor in it. If this is true, and I see no reason to doubt it; if the uterus was retracted then as it is now; and if the menorrhagia began soon after, it is fair to infer that the development of the solid portion of this

tumor, followed the development of its cystic portion. This order of consequence is the reverse of what takes place in fibro-cystic tumors of the uterus. But in cysto-sarcoma, and also in cysto-carcinoma of the ovary, the solid part may be first and the cystic secondary, or *vice versa*.

But, what is this solid growth? Is it benign, or malignant, carcinomatous or not? It is manifestly ovarian although the uterus is certainly involved and included in the mass. I believe it to be a cysto-sarcoma of the ovaries, although in some respects it resembles cysto-carcinoma of the same organs. Here is a parallel between the symptoms of each:

Ovarian cysto-sarcoma.	*Ovarian cysto-carcinoma.*
The rounded outline of the tumor.	The surface of the tumor is irregular and nodulated.
The tumor is not especially sensitive.	It is almost always tender and sensitive.
There is almost always a history of menorrhagia.	Menorrhagia is exceptional.
Almost never a pronounced ascites, or any dropsy of the feet.	Ascites and anasarca are the rule and not the exception.
The pulse is not habitually rapid.	The pulse is like that of phthisis.
There is no peculiar cachexia.	In a confirmed case the cachexia is always present.
The solid portion of the tumor develops slowly.	The more malignant the solid growth the more rapid its development.

Is this a suitable case for ovariotomy? I think not. The tumor, if not really malignant, is of the recurrent variety; the pelvic adhesions are very formidable, and the uterus is lost in the mass, and must come out with it. The case is very like the one in which you saw me remove both ovaries and a portion of the womb in October last, and which terminated fatally. I have now operated upon six cases in which the uterus could not be identified before the incision was made. Of these three have indeed recovered, but in each of the three that organ was adhered to the ovarian cyst, and had been retracted beyond reach. In the other three it was lost in a solid growth of this kind. At the request of my friend, Dr. John Moore, I saw a case like this when in Liverpool, two years ago. Within a month afterward it was removed by the celebrated ovariotomist, Dr. Keith, of Edinburgh, but despite his acknowledged skill, the operation resulted fatally. So that, with

the history that has been given you, and the points that have been made concerning this patient's case, I think it most prudent and advisable to send her home without an operation, for, in all human probability she would not survive the removal of this mass.*

2. CYSTO-CARCINOMA OF THE OVARY.

Clinical history.

Although the ovary is more liable to undergo cystic degeneration than any other organ in the body it is comparatively exempt from cancer, especially in its primary form. Any and all of its textures are liable to this kind of degeneration and of infiltration. For this reason, if the trouble begins in the areolar or the fibrous tissues of the ovary it may develop slowly and for a long time without involving its follicular portion. True cancer-cysts of this organ when they are of secondary growth may be numerous, but they are not usually so large, nor is their wall so thick as in fibro-cystic tumors of the ovary.

Symptoms.

The symptoms vary with the size, location and firmness of the tumor, conditions that involve pressure within the pelvis and which give rise to local pains, neuralgia, sciatica, rectal and vesical obstruction, recurrent peritonitis and cellulitis with or without suppuration. This form of ovarian tumor is more painful than any other, and as in other varieties of cancer it is sooner or later accompanied by an impairment of the appetite and digestion, anæmia and emaciation. Anasarca and ascites are the rule and not the exception in old cases.

As already stated, this form of ovarian cancer is usually secondary upon the same lesion located elsewhere. By the time that it can be recognized the constitutional cachexia will have been developed. The coincident lesions, more especially the peritonitis, will have resulted in the anchorage of the tumor which increases the suffering and greatly complicates the possibility of its removal.

Diagnosis.

"Any solid tumor of the ovary will awaken the attention and cause one to suspect the existence of a cancerous growth. This suspicion will be the stronger if both ovaries have been attacked, if the pain is

*Under date of September 2, 1887, Dr. K. writes that this patient is in better health than for the past six years. In the interval the tumor has been twice tapped, each time yielding about six quarts of a fluid resembling New Orleans molasses.

intense, if the development of the tumor has been rapid, if there is a marked degree of ascites, and finally if the emaciation and the cachexia, and the general and local œdema are out of proportion with the size of the tumor. The age of the patient is also a sign that is worthy of note, for ovarian cancer is generally found in younger persons than is cancer of other organs." (*Eustache.*)

The differential diagnosis between the cysto-carcinoma and cysto-sarcoma have just been given you. (See page 924.)

3. SCIRRHUS OF THE OVARY.

History and symptoms.

This form of ovarian cancer is extremely rare; is seldom larger than an orange, is almost always of secondary formation, and connected especially with scirrhus of the uterus and of the broad ligaments; it affects both ovaries at the same time; is most frequent in unmarried women; and is peculiar through its exemption from adhesive inflammation, its mobility, painlessness, and its failure to undergo any form of cystic or calcareous degeneration. The surface of this kind of tumor is comparatively, although not absolutely, smooth, and, therefore, it is not usually accompanied by ascites. Indeed this circumstance causes it to be confounded with fibroma or myo-fibromata of the ovary. The chief distinction between these two varieties of ovarian tumor, both of which are rare, is that the development of the cancerous cachexia is incident to one of them and not to the other.

The expediency of removing a scirrhous growth of the ovary by laparotomy, will depend upon the involvment of the uterus and the broad ligaments, and upon the constitutional condition of the patient, the family history, the duration of the disease, the emaciation and the digestive impairment; and since all of these conditions cannot be otherwise determined, it will sometimes be proper to settle the question by a resort to the exploratory incision.

4. COLLOID OR MYXOMATA OF THE OVARY.

Not always cancerous.

It is unfortunate that the term "colloid," which means a gelatinous substance, should have been applied to a variety of ovarian growths; and still more unfortunate that authorities are not agreed as to the malignancy, or non-malignancy of these tumors. Formerly every ovarian tumor that yielded this species of jelly-like discharge was believed to be cancerous, and the rupture of cysts with colloid con-

tents was thought to be fatal through the absorption of cancerous material. Now we know that, unless the intra-cystic contents consist of some form of papillomatous growth, the mere fluid contents of the sac are not sufficient proof of its cancerous nature. I have repeatedly removed multilocular tumors of the ovary in which the cysts contained a large amount of this colloid material; but so far as I have been able to trace the subsequent history of these cases, in only one of them has there been any recurrence of the disease. In that case both ovaries were involved, much of the colloid material was hardened into form like moulded jelly; the two tumors weighed sixty pounds; the patient made a good recovery and lived for eighteen months when she fell a victim to a rapidly developing cancer of the peritoneum with ascites.

Tait on colloid tumors of the ovary.

A prominent author says "the term *colloid*, as applied to tumors of the ovary, must be held to refer only to the consistency of the fluid contained in them, and in no way as a point for classification. I have never met with a description which has persuaded me that the so-called colloid cancer, as seen in the breast, intestines and peritoneum, has ever been met with in the ovary. What we see of it is the myxoma already described, and which is always quite localized in the tumor, a mere incident, as it were, never forming the mass of the growth. In other organs it is practically a malignant disease, but whether it is so in the ovary I do not know. It is, as I have said, the reversion of the stroma of the ovary to its young form, and may therefore be suspected." (*Lawson Tait.*)

5. PAPILLOMA, EPITHELIOMA AND CAULIFLOWER DEGENERATION OF THE OVARY.

Papilloma, or wart-like growths upon the ovary are either extra- or intra-cystic. They may be sparse or exuberant, are very friable, and their presence is usually accompanied by a large amount of free fluid in the form of ascites, or large accumulation within the cyst-wall. When they are attached to the outer surface of the sac, they not only give rise to abdominal dropsy, but similar vegetations are apt to be found upon the surface of the peritoneum. Sometimes these peritoneal sprouts are developed in consequence of the rupture of the cysts and the resulting extravasation of their contained fluid. It has been claimed that frequent tapping of a benign cyst may possibly result in the formation of these papillo-

matous growths, especially if any of the cystic contents shall have passed into the peritoneal cavity.

Ovarian epithelioma usually begins within the cyst, and may be limited to its cavity; but, if the cyst is ruptured the lesion may extend to the solid portion of the tumor, and to the neighboring surfaces. The greater its extension the larger the ascitic accumulation, and the more pronounced the cancerous cachexia.

Cauliflower degeneration of the ovaries, of which Plate II, taken from a specimen that was removed in my clinic, gives a faithful illustration, is undoubtedly the rarest of all the forms of ovarian tumors. Its symptoms are not distinctive from those of other varieties of ovarian cancer. Its morbid anatomy is peculiar in that its development results in the destruction and disappearance of the cyst-wall, while in old cases there is general anasarca, ascites, emaciation, the cancerous hue of the skin, and the usual evidences of a cancerous cachexia. Secondary cardiac and renal lesions are the rule and not the exception.

The following case was first shown in my hospital clinic April 10, 1882:

Case.—Mrs. ——, aged 43, the mother of two children, has always enjoyed good health and been in good flesh until about a year ago, when she began to grow thin, after which she discovered that the abdomen was very much larger than it should be. This enlargement began at the lower part of the abdomen and extended upward. A little while afterward she had a fall, which jarred her badly. Since July, 1881, now nine months, she has been tapped three times. The first time, the distention was enormous, and fifty pounds of fluid were withdrawn, after which an umbilical hernia was developed. In October, 1881, the operation of ovariotomy was attempted and relinquished by some physicians in the country, and she was tapped again, but does not know how many pounds of fluid were taken. In January, 1882, she was tapped a third time, and thirty-one pounds of serum were removed.

After the third tapping, the hernia once became strangulated, but was relieved by manipulation under chloroform. It is now very sore and she is obliged to wear a truss. There is a cicatrix four inches long, resulting from the incision made in October last, and several scars from the tappings and the sutures. The enlargement of the abdomen, which is much less than before the first tapping, is chiefly below the umbilicus, except upon the right side, where the dullness on percussion extends to the hepatic region. In the left lumbar region there is resonance on percussion, the same as marks the outline of a cyst. The wave-line is very pronounced. The depth of the uterus is three inches.

PLATE II. CAULIFLOWER DEGENERATION OF BOTH OVARIES.

EXPLANATION OF THE PLATE.—1. The fundus uteri. 2. Left ovary. 3. Right ditto. 4. Dilated left Fallopian tube. 5. Right ditto. 6. A small fibroid on the fundus uteri.

Her general condition is tolerably good. She is dragged and exhausted with the weight and refilling of the tumor, but makes more complaint of the hernia than of anything else. Her menstruation has been regular, but not too profuse. She felt so badly after the last tapping, that she declares it shall not be repeated, and insists upon an operation if only for the relief of the hernial protrusion, and for the sake of clearing up the diagnosis of the case, in which latter item she is more deeply interested than any one else can possibly be. I have told her most plainly and frankly that it is very doubtful if she has an ovarian cyst, and that it may be necessary to relinquish the operation a second time, or, in the event of malignant disease, to remove the womb. Of her own free will she asks for this expedient, and we have resolved to give the sufferer her only chance of life.

The Operation.—The operation was made at noon of Tuesday, April 18, 1882, in one of my ovariotomy rooms in Hahnemann Hospital. There were present Drs. Comstock, of St. Louis; Pollock, of Galesburg; Scott, of Oneida; Crawford, Reynolds, and Ehle, of Chicago, who very kindly assisted. The incision was made at the side of the old cicatrix. Coming down carefully on what seemed to be a cyst-wall, a separation was made for an inch or two in order to determine if we were really within the peritoneum. This could not be decided until the fluid was withdrawn by tapping. The two layers of the membrane were separated from each other for a little, when I became satisfied that they both belonged to the peritoneum. The incision through this membrane was enlarged, and the abdominal contents were displayed *in situ*. There was no cyst of any description within the abdomen or the pelvis.

The fluid drawn off was thin, of a light amber color, ascitic, and weighed thirty-four pounds. The only peculiarity about it was that two or three little whitish bodies, as large as a split pea, passed through the trocar while it was flowing.

Further exploration disclosed two tumors, one on either side of the uterus. When these were brought to the lower angle of the incision, it was found that the only expedient left was the removal of the uterus with the masses attached. Supra-vaginal hysterectomy was therefore performed. The broad ligaments were ligated; the uterus was carefully separated from the bladder, and detached all around. The abdominal portion of the cervix was treated as a pedicle, and the womb, with the diseased ovaries was cut away. Very little blood was lost, no accident happened, the toilet of the peritoneum was carefully made, the old cicatrix was removed, and the umbilical hernia disposed of after the manner of Kœberle. The wound was closed and the patient put to bed, the operation having lasted nearly two hours.

She re-acted fairly well, and soon became conscious, although the weakened condition of the circulation which had persisted during the operation still continued. The pulse was often scarcely dis-

cernible at the wrist, and, although she complained of being too warm, her hands and face kept cool, without any tendency to febrile reaction. At 4 P. M., the urine was drawn, the pulse was 120, with some vomiting of frothy mucus. At 8 P. M. the temperature was 98.5°, the pulse 120. She complained greatly of pain in the back and down the right crural nerve.

These symptoms continued with slight variation. She had no good sleep; the urine was drawn every three hours; the bowels were slightly moved; she had nausea, but no more vomiting; the coldness of the face and of the perspiration were marked at intervals; the temperature did not increase; the left radial pulse could not be found, and the pain in the back increased. At 4 A. M., the carotid was poorly defined. The cardiac murmurs were distinct and regular, but soft and undulating.

The respirations reached fifty per minute and were quite labored. She was sensible until within half an hour of her death, talking quietly of her approaching end, and thanking those about her for all that had been done for her relief. She sank quietly away at 6:30 A. M., evidently from exhaustion, it being eighteen hours after the operation.

An autopsy was held at the end of twenty-four hours, in the presence of those who had witnessed the operation (excepting Dr. Scott), and also of Drs. Laning, Burnside and Glover. The incision was re-opened and the abdominal cavity carefully examined. There were no signs of congestion, and no evidence of hemorrhage or any accident consecutive upon the operation. The ligatures upon the broad ligaments had not slipped; the pedicle was secure; the bladder had not been injured, and everthing was normal, excepting the peritoneum, which had formerly been mistaken for the wall of an ovarian cyst, and the presence of a quantity of ascitic fluid, which had already poured into the abdominal cavity since the operation.

6. ENCEPHALOID OF THE OVARY.

In this form of ovarian cancer the contents of the cyst or cysts have been changed and degenerated into a peculiar, brain-like mass, whence its name. Both ovaries are usually involved in this variety of malignant growth, from which the uterus and the neighboring tissues are exempt. In this latter respect the encephaloid differs from kindred affections of the ovary. But the other symptoms including the peritoneal dropsy, and the constitutional involvement are of the same serious character. The course of the disease is sometimes quite slow and insidious; but at other times it is rapidly fatal. In exceptional cases, as with encephaloid tumors in other parts of the body, the growth is traceable to a traumatic injury, but usually hereditary influence can be readily detected.

The most marked case of the kind that I have ever seen was one in which I made a double ovariotomy upon a patient of Dr. A. M. Eastman, in St. Paul, Minn., and in which there were forty pounds of ascitic fluid, while the tumor attached to one ovary weighed nine, and that of the other two pounds. The full history of this case was published, with a cut illustrating the same, in the *Clinique*, volume IV, page 439.

I know of no more serious question than to decide upon the propriety of removing these encephaloid tumors of the ovary after having exposed them by an exploratory incision. My own rule has been to take them away if the pelvic adhesions are not so bad as to render it almost certain that the patient would die before the operation was finished. If the facts and the risks have been fully stated to the patient and to those most interested beforehand, and she or they insist that it shall be removed, I think we would do wrong to relinquish the operation while there was the least possible chance of recovery.

LECTURE LVII.

THE DIFFERENTIAL DIAGNOSIS OF OVARIAN DROPSY.

I. From Ascites. 2. From encys'ed peritoneal dropsy. *Case.* 3. From pregnancy. 4. From extra uterine pregnancy. 5. From uterine fibroids. 6. From fibro-cystic growths. 7. From physometra. 8. From distention and prolapse of the bladder. 9. From enlargement and malignant disease of the liver and spleen. *Case.* 10. From tumors which are due to menstrual retention. 11. From renal cysts, etc.

Within a fortnight I have shown you three cases of ovarian dropsy, and now I propose to teach you how to diagnosticate that disease from those with which it is often confounded. In two of these cases my diagnosis has been already confirmed, for the tumors which weighed twenty-seven, and forty-three pounds respectively, after I had removed them, were examined in the presence of the class.

I. *From ascites.*—In the great majority of cases, abdominal dropsy is secondary upon some pre-existing chronic disease of the liver, of the spleen, of some portion of the digestive tract, of the kidneys, or, in rare instances, of the heart or lungs. In ovarian dropsy this rule is reversed, and the general ill health is the consequence of the development of the tumor.

In ascites, if the patient lies upon her back with her knees drawn up, the abdominal tumor becomes flattened anteriorly, and "bulges," or spreads out laterally. The sides and flanks, as well as the front surface of the enlargement, except directly around the umbilicus, are dull and flat on percussion. Around the navel, however, there is a resonant sound in ascites. If she turns upon either side, there will be dullness upon that side, and resonance upon the other. But in ovarian dropsy the contour of the tumor is not changed when the patient changes her position. It is not flattened in front when she lies upon her back. Its margin is easily mapped out. The flanks are not distended. There is no dullness or bulging in the lumbar regions, but a resonance which is quite clear and characteristic, and which assures us that the intestines lie behind a circumscribed sac, whatever its contents may be. This is so well

Posture.

shown in the chart (Fig. 18) that I am quite certain you will remember it as a chief means of diagnosticating ovarian dropsy from ascites.

In ascites the "touch" recognizes a fluctuation in the Douglas' cul-de-sac, which is lacking in ovarian dropsy. In ascites, also, the accumulation begins at the lowest and most dependent part of the abdomen, while in ovarian dropsy the tumor usually commences in the right or the left hypogastrium, or in one of the iliac fossæ. When it exists, extreme dropsy of the abdominal walls is almost always conjoined with malignant disease. Coincident œdema, especially of the feet, may exist from the first in ascites, but never occurs in ovarian dropsy except in the last stage of the disease.

The "touch."

It should be remembered, however, that in quite a share of cases, more especially if the growth is malignant, or semi-malignant, ovarian tumors and ascites may coexist. The larger the accumulation about an ovarian cyst the more suspicious the character of the tumor.

Tapping is a useful means of diagnosticating between these two affections. Having withdrawn the serum in case of ovarian dropsy, we find that the solid or semi-solid tumor does not float out of reach as before the operation, but that it may now be quite readily examined and grasped by the hand through the abdominal parietes. After tapping, therefore, the size, shape, and location of this tumor can be so well made out that we need not confound it with such hypertrophy of the liver, the spleen, or of the mesenteric glands, as might have attended upon ascites.

Tapping.

Concerning the time and mode of tapping, it should not be done during the menstrual period, neither directly after a meal, nor yet in your office. I once tapped a very large cyst with a small trocar, and very carefully, in my office, and my patient sank almost immediately into a state of collapse from which it took me two hours to rescue her. Dr. Peaslee lost a case from tapping with a fine trocar. The instrument should consist of a small exploring trocar, or of the long slender needle of the aspirator, the use of which prevents the admission of air into the cyst when it has been wholly or partially evacuated.

Care in time and place for tapping.

Beside its diagnostic value, tapping is sometimes of the great-

est service in helping us to decide upon the propriety, and indeed the necessity of an early operation. When you succeed in drawing off a considerable quantity of fluid, which you are satisfied comes from an ovarian cyst, but have reason to believe that other cysts have not been reached, and cannot be emptied by the same puncture, the case is a compound one, and the clinical inference is that you should not keep on tapping one sac while the rest of the tumor is growing, but that the whole mass should be removed as soon as possible.

The prognostic value of tapping.

Some of you remember the case which was sent me a few weeks ago by Dr. L. Hall, of Minneapolis, Minn., in which, before she came into Dr. Hall's hands, the patient had been tapped nine times, with the removal of ninety quarts (by the husband's measurement) of a dirty wine-colored fluid. This had been done within eighteen months, but although the tumor had diminished, it had never disappeared in consequence.

Case.

You saw that poor woman on the table; you heard me give an unfavorable prognosis; you witnessed that I declined to operate, unless the husband and the patient took the whole risk; you saw her feeble condition, her courage, her cheerfulness, and her determination not to leave this hospital until that tumor was removed. One of the sub-classes witnessed the operation, in which, through the most formidable and universal adhesions that I have ever seen, the tumor, weighing forty pounds and consisting of five large lobes, was removed. The next day it was examined before the whole class, and you saw the character of the contents of the four large sacs which had not been touched by the trocar, although an attempt had been made to open a second one. The smallest of these sacs had suppurated, and one of them contained more than a quart of dark, grumous blood. The large cyst, which had lain against the abdominal parietes, had no communication with the others.

The patient lived only seven hours; but the legacy left us was the conviction that if, when the trocar had told its story, the tumor had been removed, she might have gotten well again.

It is important to remember that in ascites, after paracentesis, the re-accumulation of water is *usually* slow, while after the evacuation of an ovarian cyst, it is much more rapid and persis-

tent. In one of my patients who had ovarian dropsy, from whom I withdrew many gallons of water, the abdominal tumor was quite as large as ever at the end of the first week.

Refilling of the sac or cyst.

In exceptional cases, however, ascites and ovarian dropsy co-exist, and both sets of symptoms are present at the same time in the same patient. The diagnosis between them is more difficult in case the cyst is unilocular than if it is multilocular, because in the former the abdominal enlargement is more rounded and uniform, and bears a closer resemblance to that of ascites.

May co-exist.

II. *From encysted peritoneal dropsy.*—There is a form of ascites in which the accumulation of serum is localized by plastic peritonitis, and the tumor is limited, just as it is in hæmatocele. This sacculated form of peritonitis, which may occur in men as well as in women, may be traumatic, or it may be cancerous, or tuberculous; and it may follow an attack of pelvi-peritonitis, or of hæmatocele. It is not of very frequent occurrence, but we have had three cases of the kind in the hospital in as many years. One of them was brought here by Dr. H. C. Thole, of Dwight, Ill., a description of which you will find in *The U. S. Medical Investigator* for Sept. 1, 1877.

The special signs of this form of dropsy are the lack of intestinal resonance on the top of the tumor when the patient is lying on her back, and of the bulging in the flanks that is present in ascites; the non-interference of respiration by the tumor; the highly albuminous character of the fluid; the constant peritonitis, and the usual co-existence of a grave cachexia. A very important sign also is that, when such a sac has been tapped, it almost never refills. This, indeed, is the kind of an "ovarian tumor" which is sometimes cured by electricity, and at others by internal remedies, when in point of fact it is no more an ovarian tumor than is a case of dropsy of the knee-joint, or of the pleura.

The only absolute test of encysted peritoneal dropsy is by tapping, and by the exploratory incision. It has happened that cases of this kind have been cut down upon with the intention of performing ovariotomy, when there really was no other tumor than such as had resulted from this sacculated form of peritonitis. On the fourth day of September,

Case.

1874, I took my friends Drs. Dorion and Foster, and my brother, Dr. E. M. P. Ludlam, to a case which four physicians, two of whom were gynæcologists, had pronounced to be one of ovarian dropsy. The diagnosis was masked, and the patient was aware of the fact. We were prepared to operate in case it should be warranted after the exploratory incision was made. But a careful section of the peritoneum discharged the entire dropsical accumulation, and no sac or tumor could be found. The incision was closed, she made a good recovery, and now, when six and a-half years have elapsed, there has been no return of the difficulty.

III. *From pregnancy.*—Pregnancy is self-limited, and its general history is so well defined that you might suppose there would be little risk of confounding it with ovarian dropsy; but experience proves otherwise, for it has frequently happened to the surgeon to declare the patient ill with ovarian dropsy, when, in reality, she was pregnant, and upon making an abdominal section to find the fœtus in utero, instead of an ovarian cyst within the cavity of the peritoneum. So frequent is this error in diagnosis, that it would not perhaps be extravagant to say that at least one-third of the cases of so-called ovarian dropsy, in which gynæcologists are consulted, prove to be cases of pregnancy.

Frequently confounded.

In ovarian dropsy menstruation is sometimes arrested. The reflex ovarian sympathies, which involve other organs, may simulate those proper to gestation. The digestive function is almost necessarily more or less impaired. The mammary glands may be developed and become tender, as in pregnancy. The breasts may fill with milk, and even the areolæ may become quite distinct. Usually, however, in ovarian dropsy, unless both ovaries are diseased, the menses return irregularly, or are too frequent and copious. Last year I was consulted in a case of ovarian dropsy occurring in a woman aged thirty-six years, who, by reason of a congenital absence of the vagina, had never menstruated. The patient's age will sometimes assist in diagnosticating ovarian dropsy from pregnancy.

Parallel symptoms.

A rare case.

In general, we say that in pregnancy the abdominal tumor has some peculiarities of situation and growth which may perhaps serve to distinguish it from an ovarian enlargement. For exam-

ple, it has originally been intra-pelvic; it ascends gradually or more rapidly, as the case may be, at about the fourth month, and its globular outline is easily recognized by palpation. It it deviates to either side of the median line, its margin is smooth and well defined. From the fourth until the eighth month it grows from below upwards. It assumes the form of a general swelling, and is never described by the patient as a "lump" in her side or elsewhere.

Location and growth.

But we must not forget that both these affections may escape observation or suspicion until weeks or even months have elapsed before our advice is sought. Under these circumstances, we shall be compelled to rely upon other signs in order to separate them and to treat them properly.

The "touch" may aid very greatly in the diagnosis. In pregnancy, after the fifth month, and more especially in multiparæ, the uterine cervix is considerably softened, swollen, and compressible, and the external os uteri patulous. In uncomplicated ovarian dropsy its shape, size and cartilaginous character remain unchanged. In pregnancy, at or after the fifth month, you would expect to find the cervix at the superior strait, not far from the promontory of the sacrum. And, although it is frequently drawn up and either ante-flexed, or displaced toward the affected side in ovarian dropsy, still its location will in most cases not differ materially from that of the unimpregnated uterus. If the internal os uteri was open, and the finger did not come into direct contact with the membranes, the placenta, or with some part of the fœtus, the woman could not be pregnant. The easy introduction of the uterine sound, and its ready passage to the fundus uteri, would also enable you to exclude pregnancy from the list of probabilities. But the sound should not be used unless it is manifest that, if the patient is pregnant, her "term" is very near.

Changes in the cervix in both states.

The uterine souffle is so equivocal a sign of pregnancy that, except as confirmatory, we cannot place much dependence upon it; for it has been found that it does not arise, as was once supposed, from an increased development of vessels, and an augmented circulation of blood at the site of the placenta and through it. In other words, it is not necessarily connected with the utero-placental cir-

The uterine souffle unreliable.

culation. It may be present in fibroids, in uterine cancer and hypertrophy, in tumors within the broad ligament, in aneurism of the abdominal aorta, in case of a tumor pressing upon the iliac arteries, in sub-involution of the womb after delivery, and also in ovarian enlargement with or without dropsy.

If you are fortunate enough to detect the fœtal heart-sounds, all doubt will be at an end. But, although this will afford you an unequivocal sign of pregnancy, if you can recognize it, it would not, however, be wise to conclude that your patient was not pregnant simply because, after repeated trials, you failed to find it; for it might be so distant, indistinct and obscure, or so modified, that you would not know it from other sounds. Or the position of the fœtus in utero might be such as to render it quite impossible for you to hear it at all.

The fœtal heart-sound unequivocal.

In advanced pregnancy, if the position of the child is favorable, and the abdominal walls are thin, it is sometimes possible to recognize the head, or the extremities of the fœtus, by palpation. Quickening, if it were genuine, would confirm this condition. And yet it has happened that the irregular outline of the proper ovarian tumor has been mistaken for that of the child; while the movements of the fœtus in utero may be counterfeited in various ways.

It is, therefore, more difficult to diagnosticate ovarian dropsy from pregnancy than you would have supposed. Sometimes they coexist. In very rare cases the dropsy is contingent upon gestation, and disappears after delivery.

If you can not otherwise determine the diagnosis, it will be best for you to proceed as in other cases where pregnancy is possible, *id est*, to wait until the proper limit for that condition has passed, for, ordinarily, there need be no haste in deciding. If the woman is pregnant, the tumor will not sensibly increase in size, or develop in an upward direction, after eight and a half months. When ten or twelve months have elapsed since the swelling was first noticed, it is tolerably certain that there is some kind of a tumor present which would be found in case of extra-uterine pregnancy, in which the fœtus might be indefinitely retained. But this form of gestation is so rare as scarcely to deserve notice in this connection. In women, as you know, the natural limit for pregnancy is nine

Time as an element of diagnosis.

months, while the average duration of ovarian dropsy is about three years.

IV. *From extra-uterine pregnancy.*—In the great majority of cases extra-uterine fœtation terminates by a rupture of the cyst, and pelvic hæmatocele, at or before the fourth month. I have already cited you a remarkable instance of this kind (page 428). Under these circumstances there is little risk of confounding the tumor with ovarian dropsy. But, when the sac has not burst, and the fœtus has become encapsuled, more especially if it has not been mummified, but has developed and remained plump, with a large amount of serous fluid around it, it may be very difficult to diagnosticate it from ovarian dropsy.

If you will remember that, although its cavity is not necessarily enlarged, the tissues of the uterus are softened and dilated in this form of pregnancy; that the finger can be passed into it for the purpose of conjoined manipulation; that cases of extra-uterine pregnancy which are extended in this way are almost always of the tubal variety, which makes the tumor accessible from the side of the uterine cavity; and that extra-uterine ballottement is therefore available to detect a floating solid just outside of the uterus, it may assist you greatly.

Tapping with the ordinary trocar in such a case is murderous, for in extra-uterine pregnancy, unless there has been a great deal of adhesive inflammation, the walls of the sac will not collapse and close when that instrument is withdrawn, as they do after the needle of the aspirator. The consequence is an overflow of its vitiated contents into the peritoneal cavity, and death from sepsis. You will therefore take the aspirator in preference, and while its slender trocar is being passed, or afterwards, use it carefully as an exploring needle by which you may recognize the bony parts of the fœtus, if there is one. Simon's rectal exploration is a dangerous expedient on account of the risk of rupturing the extra-uterine sac, which is usually very delicate; and an unsatisfactory one, because, unless the fœtus is mummified, it gives no positive evidence, and therefore could not help us to distinguish this form of pregnancy when it is most likely to be confounded with ovarian dropsy.

V. *From uterine fibroids.*—Although ovarian dropsy may be accompanied by irregular menstruation, in which the flow may be

either too frequent or too copious, or both, nevertheless we can not properly say that patients having this form of dropsy are prone to uterine hæmorrhage. Indeed, the dropsical and the hæmorrhagic diatheses are at antipodes, and seldom or never exist in the same person. But the hypertrophy of the muscular structure of the womb, which is pathological and not physiological, or which, in other words, does not pertain to the development of the gravid uterus, but which follows abortion or labor, or an attack of metritis, is in the majority of cases attended by a more or less protracted and alarming menorrhagia. Statistics show that only *nine* per cent. of the cases of ovarian dropsy are accompanied by uterine hæmorrhage; while as large a proportion of cases of uterine fibroids as *seventy* per cent. are marked by this symptom. This estimate does not include those extra-mural or sub-peritoneal fibroids from which such a hæmorrhage would be impossible.

Hæmorrhage.

Whenever, therefore, you have a patient who is subject to considerable or continuous flooding, which begins and ceases without any special relation to "the month," and more particularly if she is not pregnant, and there is present a pelvic or abdominal tumor of considerable size, you will have reason to suspect that she has one or more uterine fibroids. In that case the tumor will most probably be due to hypertrophy of the uterine muscular tissue, while the hæmorrhage is a species of critical outlet or safety-valve for the excess of blood carried thither.

In uterine fibroids the tumor is hard and movable. Its mobility is diagnostic. When you can feel that a motion is imparted to the whole mass by a blow from the finger upon the posterior wall of the cervix-uteri, as in ballottement, or by introducing the uterine sound can lift the organ and satisfy yourself by the hand placed over the abdominal parietes that the entire tumor moves along with it, there can be little doubt of the presence of a uterine fibroid. Sometimes, however, it may happen in this form of neoplastic growth that the womb may be immovable, as it is in scirrhus of that organ.

Consentaneous mobility of the uterus and the tumor.

The distance to which the sound will enter the womb is also significant. As a rule, if it passes in more than three inches the uterus is said to be enlarged; and enlargement of the uterine

cavity is one of the most certain and constant signs of these same fibroid growths. In uncomplicated ovarian dropsy, if the womb is sometimes elongated, it is in consequence of its displacement, and of the unnatural pressure of the ovarian tumor upon it. The manifest changes in the length and size of the uterus which are present in a case of fibroids, do not properly belong to the clinical history of ovarian dropsy.

Length of the uterine cavity.

Fibroids are of slow growth; and so, also, are ovarian tumors, in the early stages of the same. But ovarian tumors sometimes develop rapidly from the first, or having existed for some months and grown very slowly, they suddenly fill the abdomen and give rise to much suffering and discomfort. Uterine displacements and leucorrhœa form a natural and almost necessary part of the history of fibroids, while they are generally absent in ovarian dropsy.

Relative rapidity of growth.

VI. *From fibro-cystic growths*—Those fibroids which are attached to the exterior surface of the womb, and which lie beneath its peritoneal investment, sometimes undergo cystic degeneration. In this case the tumor, which may include a number of these degenerate fibroids, is likely to become of such size as to fill the abdominal cavity, and to be mistaken for ovarian dropsy, ascites, and even for pregnancy. So close is this resemblance, that in many cases the most skilful practitioners of this specialty have been unable to diagnosticate a fibro-cystic from an ovarian tumor, before making an exploratory incision. Fortunately, however, this species of fibroid is comparatively rare.

Difficulty of diagnosis.

Dr. Routh's statistics show that in only three out of eighteen cases of fibro-cystic tumor was there any menorrhagia. Spencer Wells has several times diagnosticated the presence of these fibro-cysts of the uterus by the escape through the trocar on paracentesis, of a thin serum containing from five to fifteen per cent. of blood, with which it is so intimately mixed as not to separate from it until after standing for some hours.

Menorrhagia absent in this form of fibroids.

Without enlarging upon these and other points that will help you to diagnosticate ovarian dropsy from fibro-cystic growths, I will refer you to a valuable classification of the more prominent

symptoms arranged by Dr. Charles C. Lee, and published in the "*N. Y. Medical Journal*," Vol. XIV., p. 474.

IN OVARIAN CYSTS.	IN FIBRO-CYSTS OF THE UTERUS.
1. Disease may occur at any period, even before puberty.	1. Scarcely ever occurs under thirty — generally from forty to fifty.
2. Development rapid — usually under two years.	2. Development slow — generally over two years.
3. Aspect of face unaltered, if the general health be fair.	3. "Facies uterina" generally marked: expression anxious and dejected.
4. Fluctuation equable over the whole surface of the tumor.	4. Fluctuation confined to certain regions — generally to upper portion, while the lower is hard and dull.
5. Vaginal examination shows little displacement of the uterus — the mass smooth and distinct from the uterus.	5. Vaginal examination shows the uterus high up or displaced. The mass either not detected or continuous with the uterus.
6. Mobility of the uterus independent of the tumor from the beginning — pelvic adhesions rare.	6. Independent mobility of the womb confined to the last stage of the disease. Pelvic adhesions common.
7. Tapping causes complete collapse of unilocular cysts; in polycystic tumors, it reveals the endocysts.	7. Tapping causes only partial collapse, leaving the base of the tumor firm and indurated.
8. The fluid is clear, straw-colored, serous; or viscid, clear, mucoid, and albuminous.	8. The fluid is either brownish, bloody, sero-purulent, or muddy; or thin and yellowish, containing shreds of lymph or of cholesterin.
9. When exposed by gastrotomy the sac is pearly blue, or white and glistening; but rarely vascular.	9. The exposed sac is dark, vascular, thick, and frequently fasciculated with fibrous bands.

VII. *From physometra.*—Distention of the womb with gas is not very likely to be confounded with ovarian dropsy. If the abdominal enlargement, upon which I place my hand, is due to such a cause, the swelling will be tympanitic on percussion over its whole extent, instead of dull and flat as in dropsy. And then, too, the tumefaction could be very readily removed without resort to such a severe operation as ovariotomy; for we could pass a male catheter through the cervix uteri and discharge its contents in a very few moments.

Empty the uterus.

Physometra is always attended by more or less troublesome hysterical manifestations, which do not pertain to ovarian dropsy, and which can be dissipated by means of an anæsthetic.

Anæsthesia.

VIII. *From distention and prolapse of the bladder.*—The skilful use of the female catheter and of conjoined external and internal manipulation, would enable you to decide between either of these affections and ovarian dropsy.

IX. *From enlargements of the liver and spleen.*—Hypertrophy of the liver is almost invariably associated with chronic dis-

ease of that viscus. The form of dropsy that attends it is abdominal. When effusion has taken place into the peritoneal sac, you will recognize the physical signs of ascites. The margin of the enlarged liver, which is well defined, the absence of uterine complication, which is suggestive, the digestive and constitutional disorder, which are significant from the outset, and the general contour of the tumor, will help you to differentiate between enlargement of the liver and the presence of one or more ovarian cysts.

Physical exploration.

In October, 1879, I was called by my friend, Dr. A. W. Burnside, of Belvidere, Ill., to a patient whose former physician had declared that she had an ovarian tumor. Dr. B. gave no opinion, but desired my diagnosis and my view concerning the expediency of an operation. I decided the case to be a malignant hepatic tumor, and, of course, made no operation. In a little while the woman died, and a careful autopsy afforded a remarkable specimen of cancerous liver, which through the kindness of Dr. Burnside's pupil, Dr. W. A. McDowell, was shown to the class. The record of her case is as follows:

Case. Mrs. —, æt 52, is the mother of two children, the youngest of which is twenty-two years of age. Two years ago she began to be troubled with indigestion, and although she was under constant treatment, it gradually grew worse. About four months before her death she became unable to retain any food upon her stomach. In the early part of August there was observed a small abnormal growth near the umbilicus, which grew slowly until about three weeks before her death, when it grew very rapidly, with an aggravation of all her other symptoms. At times she suffered very severe burning pains which she referred to the stomach. Her feet and limbs became very dropsical, and her complexion finally became highly jaundiced. Almost the whole abdomen was filled with the tumor, which, at the post-mortem, weighed eleven and a half pounds. The gall-bladder was full of gall stones, three of which were as large as a hickory-nut. There were extensive adhesions to the transverse colon, and also to the stomach.

So, also, with an abnormal development of the spleen. The constitutional symptoms which accompany it are characteristic. One or another of the forms of ague, and impairment of the quality of the blood, with leukæmia and perhaps anæmia also, will serve to identify this lesion.

Leucocytosis.

The exploratory incision is the only means of an absolute diagnosis in some cases of this kind, and it should be very carefully made.

X. *From tumors caused by retention of the menses, and of fæcal matter.*—The former would depend upon an imperforate hymen, atresia of the vagina, or of the uterine cervix, or of both these passages, or upon obliteration of the neck of the womb by some flexion or deviation of the organ, or by some foreign growth which served to block up its outlet. In either case the "touch," and the introduction of the uterine sound, would discharge the menstrual deposit and remove the tumor. Such an expedient would be useless in real ovarian dropsy.

If there was excessive fæcal accumulation, the previous history of the case, and, more than all besides, a careful examination of the tumor, would disclose the difference between it and the disease we have under consideration. The tumor would be hard and irregular, and nodulated to the feel, and could be traced along the course of the rectum and the colon. Emptying the bowel by enemata of oil, castile-suds, or of a similar solvent, would settle the question most effectually.

XI. *From renal cysts and floating kidney.*—The only form of renal cyst that resembles an ovarian tumor of considerable size is the sac in exceptional cases of hydronephrosis. The fluid contained in such a tumor may reach thirty pounds. The distinctive peculiarity of that fluid is that it always contains urine with pus or albumin. Serous and hydatid cysts of the kidney which may resemble the smaller ovarian cysts, can be known from them by tapping. In renal growths the tumor develops from above downward and may be moved toward the corresponding lumbar region. This rule applies especially to the migratory kidney, which, in cases cited by Atlee and others, has frequently been mistaken for a small ovarian cyst.

LECTURE LVIII.

EXPLORATIVE METHODS OF DIAGNOSIS.

I. *The exploratory incision;* history of; practical indications for; precaution; mode of making; suitable cases for; is sometimes curative: *case;* detailed instruction, *case;* practical results; practical rules for.

II. *Tapping;* as a means of diagnosis; not curative; mode of operating; examination of the fluid that is drawn; the form of the abdomen after; tapping as a palliative; a dangerous expedient; *case;* the sources of danger from; how it may increase the risks after ovariotomy.

I. THE EXPLORATORY INCISION. EXPLORATIVE LAPAROTOMY.

Although the usual methods of diagnosis in ovarian and other abdominal tumors were carefully considered in our last lecture, the subject is not exhausted until I have spoken of the exploratory incision. Laparotomy, by which is meant a section of the abdomen, belongs to diagnosis, is its last resource and its final appeal in doubtful cases.

History of.

The deliberate opening of the abdominal cavity for the purpose of making a precise and a perfect diagnosis in the case of a contained tumor, was first practised by Walne in 1842. For more than forty years, in pre-antiseptic days, it was unpopular, but now there is such a reaction in its favor that it bids fair to be abused unless the indications for its employment are carefully considered. This is what is called the abdominal section, the exploratory incision, gastrotomy, or more properly, an explorative or a diagnosticial laparotomy. It should not be made carelessly, without hesitation, or without the strictest antiseptic precautions. Nor should it be done until the patient, or her family, or both have been fully apprised of the object in view, and of the possibility that nothing more than an incision may be prudent or permissible. Let them understand that it is a pre-operative expedient which is intended to finish an imperfect and an incomplete diagnosis; that it is not made for the sake of cutting, or from mere curiosity; and that its design is to expose the tumor to the direct touch and to sight in order that the question of its removal may be satisfactorily settled.

Precaution.

"There is no doubt that a good deal of rashness and a certain amount of incompetence is sought to be concealed by the practice of 'exploratory incisions.' No incision ought to be merely exploratory; at the utmost, it ought to be ultimately diagnostic in a case of extreme doubt and difficulty. * * * * Before submitting our patient to what, after all, is a serious operation and a trying illness, we ought again and again to return to the examination of the disease, read and re-read the exhaustive history, and decide only after having done this. At different examinations the mind focuses its attention on different points, and travels in different directions; and each examination may give us new information. The help of a skilled friend is always valuable, but too much weight must not be given to it. Responsibility begets trustworthiness; the man who operates is the man who must diagnose, and additional acumen is given to his powers by the heavy responsibility that waits upon their fruition." (*J. Greig Smith*).

This form of laparotomy has a threefold value: (1) to enable us to complete the diagnosis by a digital and a visual examination of the tumor, and of the pelvic and the abdominal organs that are involved; (2) to enable us to decide upon the expediency and the propriety of an operation, and (3) that we may determine intelligently what particular operation shall be made.

1. *To complete the diagnosis by a digital and visual examination of the tumor and of the pelvic and of the abdominal organs that are involved.*—After having cleansed the abdominal integument with the same antiseptic solution that you intend to use internally, the incision is carefully made, just as in ovariotomy. And, no matter what the location or size of the growth or of the obstruction, it should be made in the mesian line. This drawing on the blackboard (Fig. 175), shows the lines of incision that have been tried, or adopted by various gynecologists; but the usual one is the vertical and median incision chosen by Mauricean for the Cæsarean section. The wound should not be more than from two to three inches in length, just sufficient to admit the passage of two, or at most of three fingers; and all hemorrhage should be stopped before the peritoneum is opened.

Mode of making.

When you are ready to open the peritoneum you may recall the maxim of my old friend, Dr. Palmer, to "look for the worst, hope for the best, and take what comes." For when it is properly made,

the incision holds the key to all cases of doubt. It leads us to the seat of trouble in the most direct manner, and cannot be harmful if it is done with delicacy and not with a rough dispatch. But too much manipulation, or too long exposure of the parts may be very mischievous. Once satisfied with the diagnosis, and of the impossibility of removing the tumor with safety and success, we must *stop!* It may be, and it usually is much harder to stop than to go forward, but we must not forget that a little rashness and traumatism might cost the poor woman her life. So I shall ask you to verify by sight

Caution.

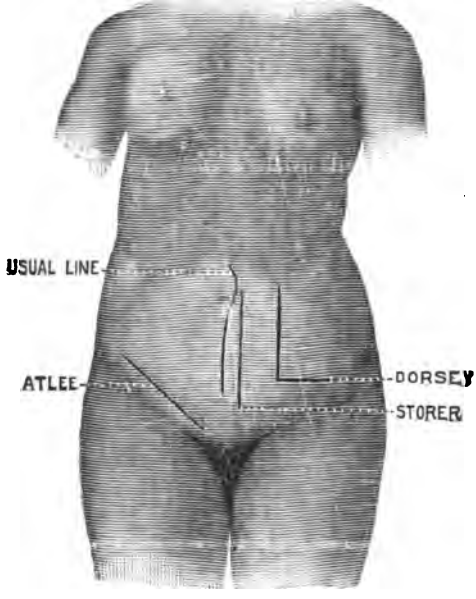


FIG. 175. The various lines of abdominal incision.

only what I may find in this case, for it has been well said that "death is a severe penalty to pay for the perfection of diagnosis."

A recent author is justly emphatic when he says: "Having made this exploratory incision we must not be too rash in converting it into an operative one. We ought to be sure, before inflicting the slightest injury upon the growth, that we can remove it. To have been forced to submit the patient to exploration by incision, is grievous enough; but to have added thereto additional risks from sheer meddlesomeness, is unpardonable. Difficulties and

dangers, legitimate and unavoidable, are numerous enough, in all conscience, in abdominal surgery; let us not to these add risks that are illegitimate and avoidable." (*J. Greig Smith*).

Cases to which it is suited.

The conditions in which doubts are apt to exist are various. Not only is it impossible in certain cases to decide by any other means whether the tumor is uterine, Fallopian, or ovarian, renal, splenic, hepatic, mesenteric, or pancreatic; what are its anatomical relations, and whether its attachments are slight or extensive, manageable or not; but without this expedient we may be equally in the dark concerning its malignancy. If a fenestrated opening can be safely made and closed again we shall have followed the rule of reserving the instrument of greatest precision in diagnosis until the close of the examination.

It completes the diagnosis, and literally opens the way for relief in pelvic abcess, pelvic hæmatocele, puerperal peritonitis and cellulitis with sero-purulent accumulations, in all forms of salpingitis, and in case of cystic or sclerotic degeneration of the ovaries. It is essentially conservative, the same as the abdominal incision for gun-shot wounds of the intestines, or for the direct examination of the stomach, or of the gall-bladder. And not only will its careful employment with good surroundings result in the saving of human life in certain cases, which were supposed to be beyond relief before the daylight was let in upon them, but the specialist who makes these incisions with comparative frequency will thereby learn to recognize and to differentiate all sorts of abdominal tumors with a greater degree of aptness, precision and certainty. It ought to be added to the reasons given by Dr. Bantock in his "Plea for Early Ovariotomy."

Is sometimes curative.

You will occasionally be surprised to find that the exploratory incision, pure and simple, is absolutely curative. The best examples of this kind occur in tubercular peritonitis and encysted peritoneal dropsy, in chronic peritonitis, and in the dysmenorrhœa of highly hysterical subjects. In the former the good result is akin to that which follows a free incision of the tunica vaginalis testes for the radical cure of hydrocele; but in the latter the mental shock produced by the idea of having undergone a serious operation (where nothing was removed) has so changed the clinical expression of the case that the hysterical symptoms will have disappeared.

2. *To enable us to decide upon the expediency and the propriety of an operation.*—When the indications for explorative laparotomy were less clearly established than now, it was a very common thing to speak of a case in which the incision had been made and nothing further done as an unfinished or an incomplete operation. Strictly speaking, it is not an operation any more than is tapping with or without the aspirator, and in the great majority of cases it is much more satisfactory. Dr. Sims is reported to have said in 1872: "I never know exactly what I am going to find when I gain admission to the abdominal cavity." And Tait says very expressively: "Sometimes I now begin an 'exploratory incision' and end it as an 'ovariotomy,' while formerly I used to start an 'ovariotomy' only to end it as an 'exploratory incision.'" There is only one risk to a beginner in this, that he will have to learn when to stop at the mere exploration. To attempt the removal of a tumor and not be able to finish it, is the most fatal of all proceedings, and therefore the list of incomplete operations should always be a short one." The operation is not an unfinished one unless you have really tried to remove a tumor and have failed to do so.

The following case will serve as an illustration. The patient was sent to my clinic by Dr. A. H. Van Voorhis, of Dakota, April, 20, 1887:

Case 20001.—Mrs. ——, aged forty-eight, the mother of five children, was married at twenty-three, was always well until after the birth of her last, a boy, fourteen years ago. At that time she came near dying from inflammation of the right ovary, but she recovered in eight weeks. Then she had one severe shock at the death of her mother, and another by her husband's failure in business. Since the last mishap she has been obliged to work very hard, and has suffered much from ovaralgia. Two years ago while sitting at the table writing, and without previous warning, she suddenly felt what seemed to her like a fœtus rising from the pelvic cavity to the right hypochondriac region. From this time she supposed herself to be pregnant; yet the menstruation continued regular and normal.

In the autumn of 1885 the signs of pregnancy disappeared and her weight increased from about 140 to 180 pounds. In May, 1886, she had typho-malarial fever, from the effects of which she has not fully recovered. During the first fortnight of this illness she lost thirty pounds in flesh, and her emaciation disclosed a hard but painless tumor about the size of the fist, and located in the right hypochondrium. She was for some time in the care of a German physician, who promised to discuss this tumor by absorption. He

said: "I make you strong, the tumor he grow faster; I make you weak, the tumor he no grow!" When she had lost in all about eighty pounds in weight, Dr. Van Voorhis was consulted. He found an abdominal enlargement as in a six months' pregnancy; she was exceedingly weak and prostrate, the feet and ankles were swollen, the bowels were bad and the digestion was very much impaired. She gained strength slowly, and finally determined, with all of a good, brave woman's pluck, to make the long journey hither for an operation.

The patient being properly anæsthetized and everything in readiness the incision was made through the linea alba. The hemorrhage being under control and the wound perfectly clean and aseptic, the peritoneum was opened. This disclosed a cancerous mesentery which was studded with hard, whitish deposits, and some of the veins of which were as large as one's little finger, full, turgid, and ready to burst. Beneath this envelope, which was quite adherent over nearly the whole surface of the tumor, was an immovable mass of cancerous infiltration which involved the intestines and the neigboring viscera. To the right of the incision was a cyst of the size and form of a goose-egg, which could be felt but for which no pedicle could be found. It was this which had been recognized as a small, knob-like protuberance by external palpation. The malignancy of the growth was manifest. The diagnosis being fully established, no attempt was made for its removal. The greatest care was taken not to wound any of the vessels; the peritoneum was closed with the continuous catgut suture, and the external wound united with silver wire.

The tumor that I showed you at my clinic on Saturday last, a condensed multilocular cyst of the ovary, had a history which illustrates the value of this form of exploration, when properly made and followed up with the appropriate operation. The woman from whom it was taken was a patient of Dr. J. E. Morrison, of Urbana, Ill. The most careful examination by the usual means did not enable us fully to make out the diagnosis. The probabilities were largely in favor of its being an uterine fibroid. An explanation to this effect was made to the husband of the patient, and with the assistance of Dr. Morrison and Dr. O. M. Baird, of Champaign, I made the abdominal section prepared to finish with an ovariotomy, or a hysterectomy, or whatever else should be required, *when we had completed the diagnosis.* The tumor was turned out, its pedicle secured, the wound closed and the patient left in good condition.*

There are cases in which an explorative laparotomy brings great

*This patient is now well again.

relief with little comparative risk, even where it does not promise anything in the way of a radical cure. I had such a case a week ago in Kendallville, Ind. Its clinical history, which was kindly prepared for me by the attending physician, Dr. W. M. B. Olds, is as follows:

Case.—On April 27, 1886, I was called to see Mrs. ——, aged forty-two. She was married but had never borne children. She complained of gastric trouble; a dull dragging in the epigastrium; yawning; coldness of the extremities, with a burning, gnawing, cramp-like pain in the stomach, extending upward through the chest and throat. She had great dyspnœa, with laborious action of the heart, and a heaviness in the right hypochondrium, with headache and depression of spirits. There was a dragging sensation in the pelvis and pressure on the rectum while standing; extreme constipation; the skin and eyes were yellow; sour eructations; the tongue was coated yellow, pasty and dry, and the urine was dark brown and scanty; the menses had ceased; the family history reveals no hereditary taint. She has been suffering for several years with the foregoing symptoms. *Nux* and *Chelidonium* were prescribed with good effect which lasted for a few days only. Under *Coloc.* and *Apis. mel* the flatulence subsided, and the urine cleared up for about three weeks, when the symptoms returned. July 1 she was very much bloated; the abdomen and stomach were highly distended; she had extreme pain, palpitation, dyspnœa and a decided nervous prostration. Examination revealed the characteristic diagnostic symptoms of ascites, and I decided to perform paracentesis. On the 27th of July, 1886, I removed fifty-five pounds of fluid. She rallied readily and was about the house until August 25, when I took thirty-two pounds of fluid. This was repeated September 9, and each month following until November, when she was tapped every ten days until January, 1887, after which it became necessary to repeat it every seven days. After February she was tapped every four days. She suffered no inconvenience from these repeated tappings. She would keep her bed one day before the operation and then would be about her house the following morning. After the first tapping her general health seemed to improve. She was free from constipation, the appetite was good and she gained in weight. She was tapped forty-three times in all, and about 700 pounds of serum were taken away.

In August, 1886, she first complained of ovarian pains and shortly after I discovered a tumor which gradually developed until it was thought best to consider the propriety of its removal by an operation.

Physical examination showed that the uterus was firmly anchored, and that quite a mass was lying at the left lateral cul-de-sac, involving the broad ligament and probably the ovary also. At the right of the uterus there was a similar growth but of smaller size.

In the right side of the abdomen there was a movable tumor which felt like a cystic ovary floating in ascitic fluid. The exploratory incision was determined upon on the theory that both the right and the left-sided growths at the roof of the vagina might possibly be impacted, and therefore removable; that at least the floating tumor might be taken away, and that its removal and the incision of the peritoneum might, for a time at least, have the effect to arrest the rapid ascitic effusion. With the assistance of Dr. Olds and Dr. N. G. Rieff, of Albion, Ind., the incision was made after full preparation for any final procedure that might be necessary. The lateral growths were found to be due to cancerous infiltration, and were therefore let alone; but the floating tumor proved to be a cysto-carcinoma of the right ovary. It was removed and weighed ten pounds. I showed it to you and explained its peculiarities on Wednesday last. That patient is now at the ninth day and is sailing along without any troublesome symptoms.*

Although the operation ends with the incision, the discharge of the ascitic fluid, and the cleansing of the abdominal cavity, the excellent results obtained from laparotomy in tuberculosis, and in encysted dropsy of the peritoneum make it one of our most valued resources.

3. *To determine intelligently what particular operation shall be made.*—In its recent progress abdominal surgery has developed a variety of resources which cannot be properly applied in making a radical operation until the indications for their employment are plainly presented. Who ever has opened the abdomen very often in the living subject knows that every incision made through its walls is really explorative. Some one has said that "nothing is easier than to be wise *after* the event." When we have found the tumor, and determined its nature, its seat, its attachments, and the possibility as well as the propriety of its removal, it becomes a very serious question as to what form of surgical procedure is best suited to the case in hand. The fact that the intervening parietes are out of the way facilitates matters and enables us to do just what is most clearly indicated, and in the best manner, for the welfare of the patient.

Without a preliminary laparotomy the general surgeon could not decide what he would do in a case of visceral injury within the abdomen. He first finds the lesion and then fills the varying indications, whatever they may be, as carefully and as skilfully as possible. This was the way that our friend, Dr. W. E. Green,

*In a month there was a slight return of the ascites. After recovering from the operation, and having been about her house and out of doors for some time, she took a severe cold that terminated in an attack of pleurisy from which she died.

of Little Rock, Arkansas, proceeded in making the first successful laparotomy that was ever made for pelvic abscess.* This is the way to proceed in those cases of adherent retro-displacements of the uterus in which salpingotomy, oöphorectomy, or hysterorrhaphy, is requisite to the cure of the abnormal condition. And this, with proper precautions, is the proper course to take, not only in cases of abdominal tumor which can not otherwise be clearly identified and intelligently operated upon, but also in such cases of intra-pelvic disease as are of a chronic and obscure character, and which cannot be cured by the ordinary means.

Practical results.

In the wide range of cases in which my services have been required, both in hospital and consulting practice, I have found that my confidence in the value of the exploratory incision as a *dernier resort* has steadily increased. I have often made it, and so far as I know but one of my patients has died in consequence, and that was many years ago, before the days of antiseptics, or of proper hæmostatics, and when we knew but very little of the prophylaxis which is now so indispensable a part of peritoneal surgery. In six of my cases, however, in which an ovariotomy would not otherwise have been attempted, it certainly was the means of saving life. With few exceptions, and when made by one who has had experience in this kind of work, whose hands are clean and who takes the proper precautions, it certainly is a safer and a much more satisfactory test of the real condition of affairs in doubtful cases than is the resort to tapping. When a woman is dying from an obscure abdominal disease, the exploratory incision is not only admissible but it is sometimes a necessary procedure.

Barring his opposition to careful antisepsis, the list of precautions proposed by Dr. R. S. Sutton,‡ are the best that I have seen. They include:

1. Perfect cleanliness of the patient's abdomen.
2. Perfect cleanliness on the part of the operator.
3. Perfect cleanliness of the instruments.
4. The patient must be thoroughly anæsthetized.
5. Make a small abdominal incision, and secure every bleeding point before opening the peritoneum.
6. Carefully open the peritoneum, pass two fingers through into the abdominal cavity and search for information. If you fail to

*The Hahnemannian Monthly, for August, 1883.
‡The American Medical Association Journal, for January, 1887.

obtain the desired information, enlarge the abdominal wound in an upward direction, and search again.

7. Make a careful peritoneal toilet. If necessary pour in clean, warm water, and sponge it all out. Close the wound by passing the sutures over a flat sponge laid beneath the wound.

8. Never use carbolic acid or the sublimate solution; it is useless and dangerous, unless it is merely used for the purpose of cleaning the operator's hands.

9. Only the operator is to put his hand into the abdominal cavity.

10. In tying the sutures, dry the lips of the wound with iodoform gauze.

"Such are the precautions to be taken in making an exploratory incision, which if carried out will never be followed by any bad results."

II. TAPPING.—OVARIOCENTESIS.

I shall speak of tapping as a means of diagnosis, for "as a means of *cure*, tapping can never be supposed for a moment to succeed in the case of distinctly multilocular cysts. This is admitted on all hands. The frequent tapping of such a tumor by a large trocar belongs to a past age, and is a cruel proceeding when done, as it yet too frequently is, by a practitioner who simply acknowledges thereby his inability to remove it and his unwillingness to ask any one else to do so." (*Thorburn*).

Is not a *curative* resource.

Even in the parovarian cysts which yield the spring-water fluid, the tradition that they seldom or never refill after the first tapping and are therefore cured by it, is no longer tenable. And besides, as Péan* has shown, not only do these broad ligament cysts sometimes contain a very different kind of fluid, but some of the sacs in a multilocular, and even in a malignant tumor of the ovary proper may be filled with this same clear, transparent, crystal-like, colorless water. So that tapping must not be too confidently depended upon either to settle the diagnosis or to result in the cure of a unilocular cyst of any kind whatever.

The method of exploratory tapping has been greatly simplified by the use of the aspirator instead of the old-fashioned dome-trocar. For, although the needle of the aspirator is of smaller size, and one might therefore suppose that the thicker ovarian fluids would not pass through it, they will usually be forced to do so by reason

Mode of operating.

*Lecons de Clinique Chirurgicale, tome IV, 1886, page 1181.

of the vacuum that is created in the instrument. Even where the fluid is too thick to run freely we may get a few drops of it, which will be sufficient for our purpose. The bladder should first be emptied. The aspirator-trocar should be perfectly clean, and so also should the surface of the abdomen through which it is to be introduced. Selecting a spot along the mesian line of the abdomen, which is high enough to avoid the fundus of the empty bladder, and low enough to take advantage of gravity in emptying the cyst, or cysts, that portion of the integument is touched with a little strong carbolic acid. This has the effect to render the surface asceptic and the wound insensible, or nearly so.

The best position for the patient to assume is upon the back with the head and shoulders raised; or upon the side with the projecting abdomen brought to the very edge of the bed or of the table upon which she lies. If the puncture is to be made through the vagina, or the rectum, Sims' position is the better one. The instrument (Fig. 43) should be clean and in the best order.

Having anointed the needle and exhaused the bottle of atmospheric air, you are ready to proceed without anæsthesia. When the point of the needle has pierced the skin the stop-cock should be turned so that the moment the needle has reached a layer or collection of fluid it will begin to flow toward and into the chamber that has been attached for its reception. If the quantity of the cyst-fluid is large, and the bottle needs to be emptied, care must be taken to prevent the admission of air into the abdomen. Do not forget that the sarcomatous cyst-wall is usually very thick, and that you may sometimes have need to thrust the needle almost, or quite its whole length before reaching the fluid. In exceptional cases the abdominal walls are so laden with fat that the contained tumor lies very deeply. In one of my ovariotomies, although the growth weighed twenty-nine pounds, I had to cut through four inches of fat and integument before coming down upon the peritoneum. The woman made a slow recovery, but the cicatrix has not been very strong*

With careful practice you may learn to use the needle-trocar in such a way as to do the least possible harm, and to derive the greatest amount of information. In the case of an old tumor especially, and whenever there is reason to fear that the growth is malignant, the withdrawal of the instrument requires the greatest

*The *Clinique*, Vol. II, Dec. 1881, page 413.

caution. Remove it slowly, meanwhile pinching the integument between the thumb and index of the left hand, so as to secure the contraction of the tissues and the exclusion of air. Then cover the orifice with a bit of adhesive plaster, or of antiseptic gauze, pin a binder snugly around the body, and send the patient to bed for at least two days.

The fluid drawn.

It is not well to decide too hastily as to the significance of the fluid that has been drawn. It may be bloody from intra-cystic hæmorrhage, or because you have accidentally punctured a small vessel on the interior of the cyst-wall, or because you have tapped a fibro-cyst of the uterus; or opalescent, if it has come from a parovarian cyst, or from one of the smaller cysts in a multilocular growth of the ovary. If it contains one or more hairs, it has originated in a dermoid cyst; and if it coagulates on standing, it is probably ascitic. I have already spoken (See Lecture LV.) of the clinical value, or rather the lack of value, of the microscopical examination of these fluids. It is not to be depended upon as a diagnostic resource. The sticky, syrupy, adhesive quality of the true ovarian fluid is worth more to us in a suspected case, than the detection of any of its histological or its chemical elements.

The *form* of the abdomen after tapping.

The form of the abdomen after the evacuation of the cyst, or of the compartment containing the fluid, especially if it is a large one, is worthy of note. The scaphoid belly which was believed by Atlee to be diagnostic of a broad ligament cyst, when it had been emptied, is also, in exceptional cases, a sign of encysted peritoneal dropsy. But, if the clear, spring-water fluid has been drawn in considerable quantity, and the abdomen is afterwards concave, and palpation fails to detect any trace of the thin, collapsed cyst, it will be pretty safe to conclude that the growth is parovarian.

In a case of ascites complicating an abdominal tumor we may sometimes draw off the peritoneal accumulation in order to remove an obstacle to a thorough examination. This also will change the form of the abdomen, and give it a certain diagnostic value. The same is true of tapping the parent cyst in compound and malignant tumors. In this way the change in the form of the tumor that is left behind may signify a great deal more than either the quantity or the quality of the fluid that has been taken. Moreover while it relieves suffering, the removal of the contained fluid

facilitates whatever subsequent manipulation is necessary. This point was illustrated in my last lecture, (see Fig. 174). It is not safe, or prudent, however, to make these subsequent examinations until after the lapse of some days, when all risk of injury to the organs, or of exciting inflammation of the peritoneum especially, shall have passed away.

Tapping as a palliative.

Whatever objections may be urged against tapping as an imperfect and even a dangerous diagnostic expedient, it is permissible with proper precautions as a palliative measure in pregnancy, or bronchitis, or chronic renal disease, in anasarca, chronic cardiac or heptic disorders, in violent neuralgic pains from abdominal pressure and in acute peritonitis whenever they complicate ascites or any form of ovarian dropsy. Especially is this the case if for any reason it is not possible or prudent to make the exploratory incision, or the radical operation for the removal of the tumor immediately.

Case.

In a very remarkable case of this kind one of our alumni, Dr. O. B. Blackman, of Dixon, Ill., saved a woman whose life was despaired of and who had been given up to die with a violent attack of acute peritonitis conjoined with ovarian dropsy, by tapping and removing thirty-two pounds of ovarian fluid. In a few months the parent sac refilled slowly, and she developed a suppurative fever with chills, hectic and emaciation. I then removed the tumor, the largest sac of which was nearly full of pus, and she made an excellent recovery. The growth weighed twelve pounds.* I have no doubt that she would have died of the peritonitis if the distention of the inflamed membrane had not been relieved by the puncture.

Tapping a dangerous expedient.

Simple as it is, old as it is, and often as it is made by the general practitioner, the operation of tapping through the abdominal wall is not devoid of danger. In the old days, when a dirty trocar and canula were often employed and antisepsis was unknown, the mortality from tapping was greater than it now is from the capital operation of ovariotomy! The table of first tappings arranged by Kiwisch

*The following note was appended to the published history of this case: Upon opening this tumor the next day, at the hospital clinic, it was found to contain, besides the fluid that was left from the tapping during the operation, at least a quart of cheesy, stringy, decomposed pus. The sac was then inverted and the inner surface of the lesion, at its fundus, exposed. The class witnessed that, for the space of five inches across the top of the tumor, and two inches in its depth, the internal surfaces of the sac had been firmly and inseparably united by adhesive inflammation, which must have followed the first tapping, and which had prevented its refilling to the same extent as before. This tuck had really taken in four inches of the circumference of the cyst-wall. (The *Clinique*, Vol. III, page 142.)

gives a ratio of 17 per cent. of fatal cases; and Péan says* most expressively:

"We can not forget that it was three cases of speedy death after the tapping of ovarian cysts in 1863, which caused us to resolve to make our first ovariotomy; nor that we have often known those who had been tapped by our confreres, to die within twenty-four hours, and just when they were disposed to have us operate for their relief. In March, 1884, this accident happened three times in one week. When, therefore, our patients are very much enfeebled by previous disease, peritonitis, or affections of the heart or of the brain, it is better not to delay the radical operation by useless tapping."

That a lack of care in making so simple an operation as paracentesis of the abdomen may put a woman in peril even where it does not take her life, and that it may seriously complicate a subsequent ovariotomy is shown by the following case which came under my own experience:

Case.—Mrs. R., of this city, aged fifty-four, the mother of six children, first noticed an abdominal enlargement five years ago. It has increased rapidly within the past four years. Two months and a-half ago she was tapped at a surgeon's office without any word of caution as to the risks of the operation; without the application of a binder, or any form of abdominal support; and she afterwards was permitted to go home as if nothing had happened. The shock and exposure made her very ill, and brought on an attack of peritonitis, which kept her in bed for three weeks, and nearly cost her life. She had never had any previous illness.

January 31, 1882, three months later, with the assistance of Drs. A. K. Crawford, C. S. Penfield and B. L. Reynolds, I removed the tumor. Its weight was twenty-six pounds; the fluid was of the chocolate variety; and the growth was composed of four endogenous cysts. The large outer sac was adherent through every inch of its surface, on all sides, to the parietes of the abdomen in front, to the mesentery at its fundus, and to the intestines behind. These adhesions were the evident result of the recent attack of plastic peritonitis, which had been caused by the inexcusable and unchristian treatment of the poor woman. The pedicle was broad, thin and twisted upon itself. She reacted well and recovered without a single bad symptom.

The sources of danger from exploratory tapping are various.

The sources of danger from.

There is a possibility that the puncture of the cyst-wall may develop into a rupture, with extravasation of its contents and a fatal collapse. In old cases in which the coats of the sac have become very thin

*Op. cibat., Vol. IV, page 1179.

because of distention, or from the corrosive action of the contained fluid, this result is very likely to follow. The escape of a very small quantity of the noxious fluid when the needle or trocar is withdrawn, may cause an attack of septic peritonitis. I once tapped an old cyst with a hypodermic needle for the purpose of getting a sample of the contained fluid. In five minutes after the needle was withdrawn my patient was in a state of collapse, and two hours or more had passed before I became fully satisfied that she would recover from the shock.

A serious objection to tapping in case of an intra-papillomatous cyst of the ovary is that the possible escape of some of the cancer cells may cause an extension of the disease to the surface of the peritoneum when otherwise it would have been limited to the interior of the sac, and therefore removable by ovariotomy. The risk of hæmorrhage from puncture of one of the large veins that often lie upon the surface of the cyst is greatest in malignant cases; and the possibility of auto-infection from a consequent deterioration of the fluid where repeated tapping is practised should always be borne in mind. Uterine tumors, whether solid or cystic, or composite, are intolerant of the trocar. We should never tap one cyst through another, nor should we forget that in emptying a suppurating cyst by aspiration, the needle will take away only the liquid portion of the contained pus.

It increases the risks after ovariotomy.

Repeated tapping certainly increases the risks after ovariotomy, by the possible development of plastic peritonitis, as in the case just cited; by draining away the patient's strength and lowering her vitality; by vitiating the contained fluid, and thus increasing the risk of a slow and insidious absorption and of sepsis that may exist before the ovariotomy is made; and by the possible extension of an intracystic cancer to the tissues and organs that lie outside of the tumor.

LECTURE LIX.

OVARIOTOMY.

An early operation is best: suitable cases for; indications for; do. for an immediate operation; contra-indications for; qualifying do; preparatory treatment; asepsis and antiseptics; proper place, day and season for the operation; surgical cleanliness of room, instruments, etc.; the anæsthetic, assistants and necessary instruments; the patient's position and the incision; the arrest of hæmorrhage; opening the peritoneum; an essential precaution: emptying the cyst; the adhesions; enucleation in dangerous do; hæmorrhage from do; management of the pedicle; the clamp, the ligature, and the actual cautery; objections to the clamp and to the extra-peritoneal method; the peritoneal toilet; hot-water finishing for shock; drainage; the deep, continuous and superficial sutures; the special do. for a retained cyst; the first dressing of the wound; the do. for the drainage tube; putting the patient to bed.

The frequency and the flippancy with which ovariotomy is referred to of late in some of our medical journals may have caused you to look upon it as an operation that is adapted to a wide range of cases, and one in which the best results are almost certain to follow its performance. The glamour that is thrown over this subject by the remarkable success of a few noted specialists may have tempted you to suppose it an easy matter to make such a reputation, if only you can find the patients, and they will consent that you shall operate.

The truth is that the relative popularity and safety of ovariotomy since Dr. McDowell first made it in Kentucky, in December, 1809, is due to such a persistent experimentation, training and drill in everything that belongs to it, as has never been bestowed upon any other surgical operation. As a direct, although a somewhat tardy result, instead of being rejected as hazardous, unwarrantable and murderous, as it once was, ovariotomy is now made as successfully as any other capital operation. Indirectly its benefits are incalculable, for it has opened up the whole domain of abdominal surgery. Until it was practised, the peritoneal cavity and all that it contains was as inaccessible surgically as the chambers of the heart. But now there is not an organ that is covered with the peritoneum which can not if necessary be safely reached by the knife of the skillful gynæcologist; nor a scrap of tissue within its ample folds that is out of the range of his vision.

The following reasons will be a sufficient answer for those who would postpone this operation:

1. We should not wait until the patient's general health has become impaired, or in other words, the principle of such delay is a departure from that generally followed in the case of other diseases treated surgically.

An early operation is best.

2. The presence of the tumor is the cause of structural disease in other organs.

3. Ovarian tumors are liable to a variety of accidents, such as rupture, either from injury or spontaneously, and twisting of the pedicle, to morbid processes, such as inflammation, atheromatous degeneration of the blood-vessels, which with fatty change in the walls of the cysts leads to hæmorrhages into their interior, etc.

4. The existence of adhesions, of degenerative changes in, and rupture, etc., of the tumor, greatly interferes with the success of the operation.

5. On the contrary, the earlier and simpler the operation, the greater is the chance of recovery.*

Among those who suffer from some form of ovarian tumor there is a choice of subjects for this operation. The proportion of favorable cases has greatly increased since I began to operate, about fifteen years ago. At that time the majority of these patients had either been repeatedly tapped, or neglected until it was almost or quite too late to operate upon them with a reasonable hope of success. But now such old and unpromising cases are comparatively rare, for they have been weeded out; and the professional habit to defer the radical operation as long as possible has changed into a plea for early ovariotomy. Moreover, the *technique* of the operation has been so perfected that certain cases which were once unsuitable are so no longer.

Suitable cases for ovariotomy.

This change of circumstances has had the double effect to increase the ratio of recoveries from ovariotomy, and to diminish the number of conditions that constitute a bar to the operation.

The more rapidly the cysts fill or refill after the tapping, the stronger the reason for an early operation. A decided failure of the general health, with loss of appetite, insomnia, gastric and intestinal irritation, dropsy of the face, hands, or feet; dyspnœa, inability to lie down, or to walk because of the size of the tumor, with evident signs that she can not live unless she is relieved, are so many pressing indications for ovariotomy.

Indications for early ovariotomy.

The demand for an immediate operation becomes imperative in

*A Plea for Early Ovariotomy, by G. Granville Bantock, M. D., Etc., London, 1881.

case of a rupture of an ovarian cyst, with a discharge of its contents into the cavity of the abdomen. The possibility that such an accident may happen where there is great distention, or where the parent cyst is an old one, suggests that we should always be ready for such an emergency, and that the operation should not be deferred. In July, 1884, a fine, healthy-looking woman came to me from Michigan to be relieved of a large ovarian tumor. The journey was by boat and she was sea-sick. After landing I made her two visits, when her vomiting ceased, the abdominal pain and soreness had yielded, and she was up and about her room. Two days later on turning in bed after an afternoon nap, she had a sharp, cutting pain, felt something give way, sank into collapse and, before I could reach her bedside half an hour later, was dead.

Ditto for an immediate operation.

Hemorrhage into the cyst, with or without torsion of the pedicle, furnishes what might be styled a dramatic indication for immediate ovariotomy. The following case in which I successfully removed a hemorrhagic cyst, with a solid tumor weighing thirty-eight pounds, illustrates the importance of operating promptly. Dr. Frederic Stevens, our former house-surgeon, had the care of it after the operation, and has kindly furnished the following notes:

A multilocular ovarian cyst weighing thirty-eight pounds—abundant hæmorrhage into the parent cyst—ovariotomy—recovery.

Case.—Mrs.——, aged forty-seven, is the mother of four children. Fourteen years ago she had left-sided ovaritis. Since then she has been generally well, with the exception of some functional liver trouble.

"In December, 1885, she noticed a slight general enlargement of the abdomen. This increased slowly until March, 1886, when she began enlarging very rapidly. About May 1 the growth of the tumor ceased, and from this time until the month of August, she decreased four inches in size. The diagnosis of cystic disease of the ovary was made by Dr. Ludlam in May, and an immediate operation advised by him. During August the tumor again grew rapidly, causing dyspnœa, constipation and general malaise. The emaciation was marked and rapid. On September 15, Dr. Ludlam was again consulted, and the date of operation was set for September 25. In the night of September 19 she began failing rapidly, becoming blanched and extremely weak and nervous.

"She called me for relief from fainting spells, to which she was unaccustomed, and I found it necessary to remain with her most of the night. She had marked signs of collapse, her pulse was thready and feeble; she felt certain that for some cause the tumor was growing, and, brave as she had always been, was now impressed with the conviction that she was about to die. I sum-

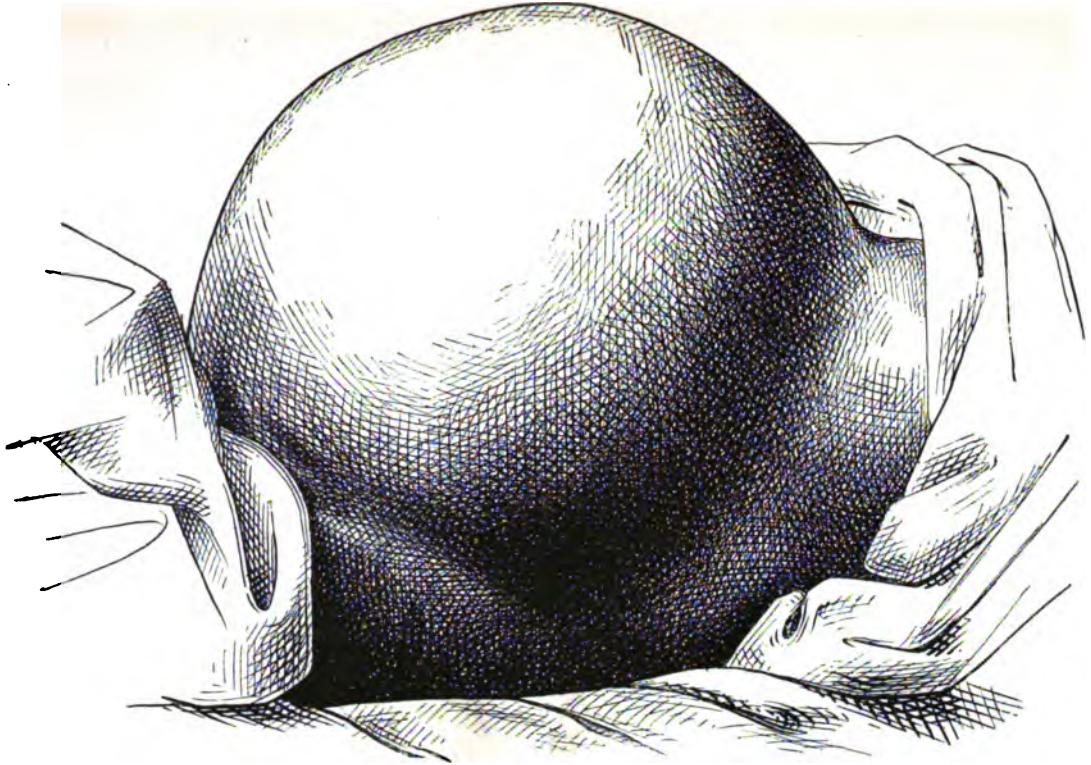


PLATE III. OVARIAN TUMOR WITH HÆMORRHAGE INTO THE CYST.

moned Prof. Bailey, who was near at hand, and with the aid of stimulants we got her through the night.

"On account of the urgency of the symptoms the operation was made the next morning, September 20, 1886. There were present to assist Prof. Ludlam, Drs. E. S. Bailey, Frederic Stevens and B. L. Reynolds. The patient was extremely weak, on the border of collapse, and the pulse filiform, 120, and scarcely perceptible. The tumor had evidently increased and changed in form since it was examined five days before.

"The tumor included four cysts, the largest of which, on being tapped, at first discharged a fluid of a very dark port wine color. The fluid soon looked and smelt like fresh blood, and was evidently hemorrhagic. The tumor was removed, the pedicle secured, the toilet of the peritoneum carefully made, the wound closed, and the patient put to bed.

"The cysts and their contents weighed thirty-eight pounds; but when the fluid which had been taken from the large sac was poured from the tub in which it had been collected, *it contained half a pailful of bright and large blood-clots.*

"The patient reacted promptly and made a rapid recovery, sitting in her chair at the end of two weeks. On the tenth day the sutures were removed and the wound was entirely healed. After the first evening, when it was 104, the pulse ranged from 80 to 86, and the temperature, which was 100⅕° with the first reaction, did not afterwards exceed 99° and a fraction."

At my hospital clinic on Wednesday, September 22, the parent cyst which had contained the blood was opened before the class, and the site and peculiarities of the ruptured vessel were clearly demonstrated. The profile of the abdomen before the operation is faithfully shown in Plate III. But for our prompt attention that woman could not have lived more than a very few hours.

Contra-indications for ovariotomy.

Unless in chronic cases of renal disease, with blood, pus, or tube-casts in the urine, the presence of albumin in that fluid would not interfere with the operation, excepting to make us careful in the choice of the anæsthetic. Serious complications, whether acute or chronic, on the side of the heart, the lungs, the liver or of the nervous system, might render the subject unfit for the operation. And so also of old scrofulous or tuberculous affections of the mesenteric glands, with diarrhœa, hectic, emaciation and ascites. Diabetes with absence of the tendon reflex is regarded by a prominent authority as a positive contra-indication. Chronic bronchitis and pulmonary catarrh are serious obstacles, especially if the patient has passed the climacterie.

I have already spoken of the frequent involvement of the right

heart, especially in the case of cystic tumors within the abdomen. (Lecture LV., page 915). Old cases of cardiac degeneration. and not of mere functional or even of valvular disorder, are much to be dreaded as complicating ovarian dropsy. A case of this kind to which I was called by my friend Dr. T. C. Duncan, of this city, will serve both as an illustration and as a warning. The history thereof was kindly furnished by Dr. Duncan.

Cysto-carcinoma of the ovaries—double ovariotomy—death from heart-failure.—Case. Mrs. W. came into my hands some twenty years ago at the death of Dr. Lyman Kendall. She was subject to attacks of palpitation, and when very severe there was a loss of consciousness. Her friends often thought that she was dying. Dr. K. had often resuscitated her with spigelia. She was a tall, spare brunette; ambitious, active and hopeful, but subject to severe metorrhagia. She carried a sensitive spine, and at one time barely escaped meningitis. The spinal tenderness increased during severe and prolonged activity. The appetite was always poor, the tongue red and pointed and the stomach sensitive to the touch. Accute attacks of gastritis usually attended the times of extra overwork. As she approached the climacteric, the flow was almost constant, only a weeks interval occuring; but it was only while the stomach rebelled that medical help was solicited. I urged systematic treatment, especially after I had obtained consent to a local examination and had found an hypertrophied, prolapsed uterus. During last winter, for a severe attack of uterine distress, I was finally summoned. I found the hypertrophied uterus completely ante-verted, a high grade of inflammation present, and an undefined pelvic tumor. The uterus was reposited and the inflammation allayed. In May dropsical symptoms began to develop, notwithstanding the uterine flow was again almost constant. This was checked and she was able to get about. But in July all of the symptoms returned with renewed vigor. The most excruciating pain was located in the head and neck.

"The heart attacks returned, but under the use of medicines this phase of the case rapidly and steadily improved. The neck and head symptoms also improved, and all went on well, except that she was very weak, had but little appetite, and the dropsy grew apace. The pelvic distress and fullness, however, was ever present.

"September 4, the distension became so great that I tapped her and drew off ten quarts of a pale liquid. Through the now flabby abdomen was outlined a hard, nodular tumor. At this juncture Prof. Ludlam saw the case and advised abdominal section, with a view to the possible removal of the tumor, as soon as she could get an appetite and recruit sufficiently. He was of the opinion that the tumor was of a malignant variety, and that, if possible, the sooner it was removed the better. After the tapping the appetite became good and she improved in strength and spirits. The heart

seemed greatly improved. But in two weeks the abdomen again became enormously distended, and this was accompanied by severe pains on the right side. Again I tapped her and drew off as much highly albuminous liquid as before.

"Again the appetite returned, and she insisted that an operation should be made before the abdomen refilled. One tumor was found to fill near the whole right side of the abdomen, and another was detected in the left side. But a few days elapsed before the abdominal distension was pressing. All felt that in this condition she had but a very short time to live. An operation offered a hope, and it was determined upon with the gravest fears that her feeble system might not withstand the shock.

"September 30, 1886, Prof. Ludlam opened the abdomen and brought to light a very large condensed multilocular mass, parts of which were already gangrenous. There were no adhesions, and this mass, which involved the right ovary, was quickly removed and the pedicle secured. A smaller mass, including the left ovary and lying chiefly in the Douglas pouch, was turned out and secured in the same way. Not two tablespoonsful of blood were lost by the operation, which was made under sulphuric ether carefully given. The intestines and the omentum showed a high degree of peritoneal inflammation. None of the cysts were ruptured or tapped, nor did any of them burst, and consequently not a drop of the vitiated fluid escaped into the abdominal cavity.

"When the second pedicle had been secured and the operator was about to close the wound, the patient suddenly, and without the least warning, ceased to breathe, and no expedient, even to the use of nitro-glycerine, was of any avail in restoring her."

In that case the operation was made with a full appreciation and understanding, by the patient and by the family, of the imminent risks incurred. Every precaution was taken to prevent what has been styled an "unexpected collapse," and to bring the woman through the operation safely. I am satisfied that her sad and sudden death (which is the first and the only one that has ever happened to me while operating), was due to heart-failure and to nothing else. An autopsy was not allowed.*

The more frequently the woman has been tapped, or tampered with by electricity, blisters, etc., the greater the risk of the operation. We would not often be justified in removing an ovarian cyst that contained pus, if it has already found vent through an

*If the reader is disposed to question the propriety of my having undertaken so serious an operation in this forlorn case, I beg leave to answer in the manly and memorable words of Prof. Goodell: "I have always contended that, for a surgeon to decline to operate on any case of ovarian tumor because it is not a promising one, is virtually the same thing as if he had operated on the case and had lost it. Acting on this principle, no matter how desperate the condition of the woman, I have not in a single instance, refused to give the sufferer her only chance for life. * * * * * This regard for the woman and disregard for my statistics, has swelled my list of fatal cases, and has given me one death on the operating table; but, on the other hand, it has enabled me to restore to life, two women who had been abandoned by other surgeons." (*The American Journal of Obstetrics*, etc., vol. XV, page 364).

opening into the bladder or the intestine. Nor would it be safe or expedient, in most cases, to operate before the tumor was large enough to distend and develop the abdominal parietes somewhat.

A few years ago, extensive adhesions of the tumor were thought to contra-indicate the operation, and they did very often cause it to be relinquished. But now we know that, excepting in case of pelvic and hepatic adhesions, their danger has been greatly exaggerated. The same is true of a co-existing pregnancy. You should not perform ovariotomy during the prevalence of any severe epidemic, such as cerebro-spinal meningitis, diphtheria, puerperal fever, or erysipelas.

The question of the safety and propriety of ovariotomy will turn upon these points. But, while we ought not to run too great a risk in resorting to it in extreme cases, we should remember that it does offer a means of cure where everything else must fail. In so far as the heart and lung complications are concerned, my own practice has been to make the tolerance of the anæsthetic the test of its expediency. If the pulse and respiration are calmed and the ether has a pleasant effect, I go forward.

Qualifying indications.

You may find it advisable to cut down upon a cyst that has only partially refilled after tapping, because it is evident that the patiant can not recover if it is not taken away immediately. I made the operation in a case of this kind upon a patient of my friend, Dr. C. W. Crary, at Lake City, Minn., on the first day of June, 1878. Her baby was only three months old. She really had not gotten through with her puerperality. After her delivery, the tumor had grown very rapidly, and a week before my arrival the doctor had very properly tapped it. This afforded the greatest relief, but as soon as it began to refill, her strength gave way, and it became evident that she must sink from the drain. I cut down upon the flabby sac through a resonant abdomen, and, despite the worst possible enteric and mesenteric adhesions, we had the satisfaction of saving the poor woman's life.

Case.

The dangers of the operation, and the contingencies that beset the first month after it has been made, should always be explained to the patient and to her family beforehand. For, like the doctor, she must enter upon it intelligently, or the result may be disastrous.

For a week previous to the operation, unless you are forced to remove the tumor at once in order to save her life, the patient should have a nourishing but easily digested diet. If she is emaciated and the skin is dry and husky, let her take a warm bath the day before the operation.

Preparatory treatment.

The bowels should be freed of any accumulation, and the morning and evening pulse and temperature taken and recorded for some days beforehand. It is very important that her mind should be tranquil and that her neighbors should not annoy her, and indeed that, as a rule, they should not know what is about to be done for her relief. Her urine should be carefully tested for albumin. On the morning of the operation she should abstain from all solid food and take only a light breakfast, otherwise the risk of vomiting while under the anæsthetic will be very much increased. Four or five hours before the operation she may have a cup of strong beef-tea.

Asepsis and antiseptics.

The peritoneum is so susceptible that we must be very careful not to expose it in an unsanitary atmosphere. This remark applies to the making of laparotomy for any purpose whatever; and it explains the necessity of extraordinary precautions in abdominal, as distinguished from general surgery. In an amputation of the leg, for example, the wound is readily accessible and any unfavorable conditions that surround the patient can be overcome by antiseptic and hygenic measures that are available at any time—before, during and after the operation. But in ovariotomy the sensitive peritoneum is exposed during the operation, after which the wound is closed and corrective measures, excepting in rare cases, are thenceforth excluded. It follows that the proper time for aseptic precautions, in this and all kindred operations, is while the abdomen is open.

To meet this indication, and to bring the full force of antiseptic treatment to bear as a prophylactic, the carbolic spray and the use of strong germicidal solutions was resorted to a few years ago, as in ordinary surgery. This was done to render the parts thoroughly aseptic. But it soon became evident to the careful gynecologist, that the peritoneum is quite as intolerant of certain antiseptics, as it is of whatever might float in a vitiated atmosphere, and so occasion septic mischief. Keith observed that his ovariotomy patients had hæmaturia when carbolic acid had been used; and, indeed, that he had it himself whenever he operated under the spray. And Billroth and others have reported fatal results from this intra-peritoneal asepsis with carbolic acid, the mercuric chlorides, iodoform, etc. The consequence is that the practice of throwing the spray directly into the abdomen has been very generally relinquished, and so also has the use of strong antiseptic solutions in ovariotomy.

With the reaction against the early abuse of peritoneal asepsis gynecologists are now divided into two camps: those who still

resort to it in a more or less modified form, and those who, rejecting it altogether, prefer to depend upon absolute cleanliness as the best safe-guard against all septic and pyæmic mischief. Most operators of experience belong to the former class, and even when they do not use antiseptics during the operation, insist upon all sorts of pre-operative precautions and of post-operative dressings. However, Keith, Bantock, Tait, and their followers discard these measures altogether, and contend that they are not only useless but injurious.

My own idea is that the middle course is the safer one. Indeed my practice has been to combine the two methods, for I have failed to see how they could conflict. Surely there is nothing inconsistent between cleanliness and careful antisepsis, and, under the varying conditions in which we are called upon to operate, it would not be best to depend upon either of them exclusively.

In deciding whether an ovariotomy should be made at the patient's home or in an hospital, certain practical considerations must be weighed. The advantages of a country home, if it is in a healthful locality, are that you are certain to have a good supply of fresh air and of sunlight, with wholesome, nourishing food, and an absence of bad odors, dirt and noise. When the family is in good circumstances, and all the sanitary requisites can be supplied, these very desirable conditions will more than counterbalance the best and most scientific resources of the hospital. Moreover, there are certain very sensitive women upon whom the moral effect of going into a hospital for such a purpose might be very damaging, and consequently we must sometimes regard their very positive preference. But the disadvantages of having to depend upon an indifferent or inexperienced nurse, and of having one's patient at arm's length after the operation, when the contingencies are so numerous, furnish a strong argument in favor of having it done at a first-class, special hospital, whenever the patient can afford, or will consent to go there.

The proper place for the operation.

Now that we can control and regulate the physical surroundings of the patient, it is no longer necessary to limit the season for making an ovariotomy to the early summer, or to the autumn months. With the proper precautions it may be safely done at any season, excepting in the very hot weather, and even that is permissible in cases of emergency. I have operated, and successfully too, with a range of temperature of from 90° above, to 30° below zero: but the greatest care was taken to counteract the possible ill effect of these extremes of heat and cold. The day set for the oper-

The day and the season.

ation should be clear and bright, with a wind from any quarter excepting the north-east. As in other gynecological operations it is better, but not essential, that this should follow instead of immediately precede the monthly flow.

In the outfit for this operation, no instrument is more important than the thermometer—I mean the thermometer which is designed to regulate the temperature of the patient's apartment, both during and after the removal of the tumor. While the operation is in progress, my practice is to keep the temperature at 75° F., and not allow it to fall below 70° day or night, for five or six days afterwards. This matter should be insisted upon not only because of the risk of chill and of the onset of inflammation from vicissitudes of temperature, but also because it has been found that tetanus sometimes arises from this cause.

Temperature of the room.

The room in which the operation is to be made should be thoroughly scrubbed, whitewashed, cleared of its carpets and rugs, disinfected and afterwards opened to the fresh air. The operating table, the linen, and the towels, should also be thoroughly cleaned, and disinfected either by burning sulphur or by the carbolic, or the mercurial spray. The usual method is to leave these articles in the vapor while the room is tightly closed through the night preceding the operation. The instruments should be surgically clean. Each one should be thoroughly cleansed with hot water and soap; then wiped off with absorbent cotton saturated in glycerine and carbolic acid. After this they may be laid in the sun, or upon a hot stove for an hour or two; or better still, passed through the flame of a spirit-lamp before they are used. They should not be mixed with other instruments. During the operation I usually have them immersed in Listerine. The sponges should be fine, new, and absolutely clean and aseptic.

Surgical cleanliness of the room, instruments, sponges, etc.

Some years ago it was my custom always to give the patient a dose of whiskey just before she took the anæsthetic. The object was to lessen the quantity of ether that would be necessary, to stimulate the circulation, and to promote rest and quiet afterwards. But I learned from observation that, especially in those who were unaccustomed to alcoholic stimulants, it sometimes increased the vomiting and also made it necessary to give them more instead of less of the anæsthetic. Others prefer to resort to morphine for a similar purpose. My friend Helmuth recommends that some twenty minutes before the time set for the operation an hypodermic of ten minims of a solution of sulphate of morphine eight grains, and the sulphate of atropia half a grain

to the ounce of water, should be administered. "This solution quiets the patient, stimulates the heart's action, and, very often, after the operation, secures for her a refreshing nap for an hour or two."

Most operators are careful to know that the bladder has been emptied just before the patient is placed upon the table; but Keith advises to leave it in a distended state, in order that its outline and its attachments can be more readily made out, and to protect it from injury. If the catheter must be used during the operation, it should be passed by an assistant.

The operation.—The last thing to be done before she is placed in position is to have the abdomen thoroughly cleansed with warm soap and water, after which it may be dried and coated over with such a solution of iodoform and ether as you have seen Prof. Shears inject into abscesses for their radical cure. Hégar's idea that it is likely to excite vomiting if the patient is allowed to take the anæsthetic before being placed upon the table should always be borne in mind. Unless there is albuminuria with or without tube-casts, or some valid sign of urinary disorder, or unless we have an old patient with bronchial catarrh, (broncorrhœa) sulphuric ether is undoubtedly the best anæsthetic. In that case we must use chloroform; but chloroform is not suited if the heart is crippled as it is likely to be from fatty degeneration of the right ventricle in old abdominal tumors. So we must proceed cautiously and be prepared for emergencies. For the ill effects of ether, hypodermics of rye whiskey, or ammonia; and for those of chloroform, injections of ether, or inhalations of the nitrite of amyl, with lowering the head and raising the body toward the ceiling are the best expedients.

The anæsthetic.

If, as sometimes happens, the ether is not sufficient to produce the requisite insensibility we may give a few whiffs of chloroform *with plenty of air*, and *very cautiously*, until there is profound anæsthesia, and then resume the ether. Or it may be the best to substitute the Vienna mixture, which is composed of one part of alcohol, two parts of chloroform, and three parts of ether. Whoever gives the anæsthetic should realize that, after the incision has been made through the integument, only enough ether is necessary to keep the patient quiet; that real narcotism is neither safe nor necessary; and that, above all things, he must stop giving it so as to avoid collapse while a large cyst is being emptied, and also while the tumor is being delivered through the abdominal wound. When nausea occurs during etherization it may often be stopped by pushing the anæsthesia still further.

The ether is best given with a Clover's inhaler, such as is used in my clinic. I prefer it because much less ether is required, and the patient is brought directly under its influence without carrying her to the point of saturation before she becomes insensible. If this instrument is not available, or if chloroform is used, the old-fashioned paper or rubber cone will answer.

While the patient is being anæsthetized in another room, the assistants should be instructed concerning their special duties.

The assistants.

Their number should be limited to five at the most; of whom the first should stand *vis-a-vis* with the operator, use the sponges and apply the hæmostatic forceps. The second should give the anæsthetic, and not be concerned with anything else; the third should have charge of the instruments, be ready to thread the needles and to apply the necessary ligatures; the fourth will cleanse the sponges for the first assistant; and the fifth, who is the nurse, supplies the hot water, the bandages and blankets, and prepares the room and the bed for the patient. Each and all of them must have taken a general bath, put on clean and disinfected clothing, scrubbed their hands and arms and especially their finger-nails, and washed them in an antiseptic solution. They must be absolutely free from all sources of infectious disease. I once lost a young and beautiful woman after an ovariotomy because one of the physicians who was present at the operation told me that he had not treated a case of contagious disease for a long time, when he was actually in charge of a patient with malignant scarlatina. The puerperal and eruptive fevers, diphtheria, small-pox, and bad cases of typhoid fever poison the doctor's clothing, and one who has been thus exposed, or who has very recently performed or assisted in an autopsy, should not be allowed in the room, or in the building, during an ovariotomy.*

There is no need of making a parade of instruments sufficient to stock a cutler's shop. Two scalpels; a pair of straight and strong scissors; six pairs of plain hæmostatic forceps (Fig. 176), and three ditto with gold-washed handles; a No. 7 or 8 steel sound; a Péan's trocar; two blunt tenaculæ; two pedicle forceps; a Baker Brown's cautery clamp; a Pacquelin, or some other form of cautery;

The necessary instruments.

*"It is, unfortunately, a melancholy story that ever since surgery began, the most of the mischief was done by the surgeon himself. It was the willing and tender, though unclean hand, that carried the poison into the wounds. It is to this that Lister has put a stop. With a proper antiseptic, an operator is now made to be clean in spite of himself, is compelled to have safe sponges, safe ligatures, clean instruments, and, above all, clean fingers. If one be careful enough—and few are careful enough—one may do all this as Mr. Tait does, with boiled water alone. Some such precautions are essential; beyond these, with ordinary care, we need not disturb ourselves much as to what is in the air."—KEITH. *A Contribution to the Surgical Treatment of Tumors of the Abdomen.* Part I., pages 23-4.

Wilcox's ovariotomy forceps; the necessary needles; a number of aseptic sutures and ligatures of catgut, silkworm gut, silk and silver wire (No. 26); six fine surgeon's sponges, and one flat one; a small ecraseur; with carbolic acid, or the sublimate solution (1—2000); drain tubes, adhesive plaster, iodoform, some kind of antiseptic gauze, a square bit of fine rubber cloth, and two ounces of rye whiskey; half a dozen soft towels, and hot and cold water at command include all that you will need, even in complicated cases. The instruments and sponges should be counted beforehand, and a list of them kept in order to be certain that none of them have been left within the abdomen when the wound is closed.

The patient's position.

The table should be brought before the window into a strong light, and the patient's hips raised to facilitate the gravitation of the intestines away from the lower abdomen, an expedient practised by Recamier in his first vaginal hysterectomy, in 1829. Her under-clothing should be of flannel, covered with a cotton night-gown, with woolen stockings; and the limbs should be wrapped in a woolen blanket. Care

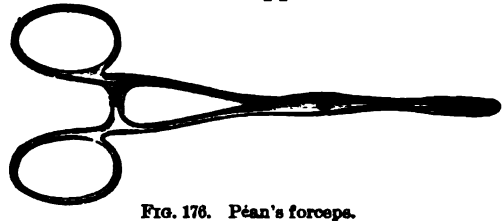


FIG. 176. Péan's forceps.

should be taken so to arrange the clothing as to prevent its being soiled, and to avoid the necessity of its being changed directly after the operation. If you use the Macintosh, after the English method, it will be necessary to have her arms and legs secured. It the tumor does not extend far into the lower pelvis, a large sponge may be placed in the posterior cul-de-sac, to keep the Douglas pouch inverted.

The incision.

I prefer to make the incision in the mesian line, just as you saw me do at our last clinic (October 17, 1887). At first it need not exceed four inches in length. A recent author says: "With regard to the actual incision, it must be remembered that there is no linea alba below the umbilicus. Unless the muscles are separated by distension, the knife will open one or the other rectus sheath. The abdomen should be opened by precise, clean cuts; a director is an abomination, and the practice of deepening the wound with the fingers belongs to the surgery of past ages." (*Treves.*)

The greatest care should be taken to stop the hæmorrhage as you proceed. The hot sponges are hæmostatic, but they should not be used in a rough way. Gentle pressure, and not a rude mopping of the wound is best. We never put a ligature in this wound any more, but rely upon the artery forceps to control any active hæmorrhage. Before a large vein is cut, two of these forceps may be so placed that the vessel can be severed between them. The more there is of venous oozing, and the longer the time consumed in controlling the flow and cleansing the wound, the greater the probability of a multiple cyst, or of a malignant growth, with extensive adhesions, and with a depraved quality of the cyst-contents.

The arrest of the hæmorrhage.

Coming down upon the peritoneum it is caught up by a pair of forceps and nicked, after which the opening may be enlarged with the scalpel, or with the blunt-pointed scissors. By Atlee's test, which consists in passing the steel sound through the opening to observe if it glides beneath the umbilicus, we may not only decide the question of having gained access to the peritoneal cavity, but may also satisfy ourselves as to the existence, or the non-existence of anterior parietal adhesions.

Opening the peritoneum.

If the tumor is multilocular and a very large one, or if it has a large solid portion which is filled with condensed cysts, the original incision will need to be extended. This can best be done with the strong scissors, cutting between two fingers, which are placed as guides to prevent injury to the intestines, or the omentum. If the patient has an umbilical hernia, my practice is to cut directly through the ring, but if not, to go to the left of it. The edges of the enlarged wound should be everted, and the hæmorrhage arrested immediately.

An incision of medium length is better than either a very long or a very short one. The objection to the long incision is not on account of its subsequent healing, but chiefly because of an unnecessary and dangerous exposure of the intestines. The objection to the very short incision is that you have less freedom in managing the adhesions, that multiple cysts are likely to be ruptured, and that the parts involved are more severely traumatised than if there was plenty of space in which to operate.

The length of the incision.

Apart from the ordinary surgical precautions, the great point in ovariotomy is to keep the blood and all infective material out of the abdominal cavity. The greatest care is requisite not to rupture the cysts, and not to

An essential precaution.

suffer a drop of the contained fluid to overflow and to fall back again. This indication will not be filled if the parent sac is old and rotten, if the patient happens to vomit just at the wrong time, or if the trocar is allowed to slip out of the cyst-wall so that the nasty fluid may escape and deluge the parts. The possibility that it may happen in any case suggests the propriety of covering the edges of the wound and the intestines, if they are exposed, with soft warm towels, or flannels, before the cyst is emptied.

FIG. 177. Péan's trocar.

Emptying the cyst.

The tumor should now be tapped and the fluid run off into a basin or bucket that is held by an assistant. The point of the trocar should be passed so as to avoid wounding the vessels that ramify upon its surface. I prefer Péan's ovariotomy trocar (Fig. 177), to that of Spencer Wells (Fig. 178), as being more convenient and less savage and harmful. So soon as the cyst begins to collapse, it should be seized and drawn towards the ceiling by a Wilcox forceps, which

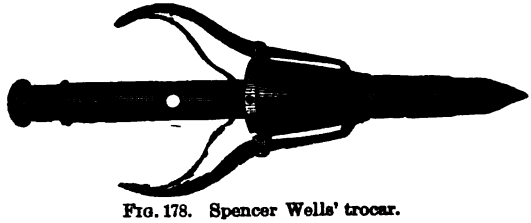


FIG. 178. Spencer Wells' trocar.

I consider a very valuable instrument (Fig. 179). In lieu of this, I have for many years employed a Sims' polypus forceps, which answers a very good purpose.

Before the technique of this operation had reached its present state of perfection, I was accustomed to stitch up the sac and to leave a considerable portion of the fluid within it, so as to facilitate the management of the adhesions, and of the pedicle, to keep the intestines warm, and to preserve the form of the tumor meanwhile. But that is unnecessary now; the only requisite precaution being to keep the wound made by the trocar from pouring its dregs into the abdomen.

It is the practice of some operators to turn the patient upon her side, and then to make a free incision into the cyst, so as to discharge its contents more quickly and rapidly. A better way is to use a Tait's cyst-trocar (Fig. 180), which is a curved tube and not a cutting instrument, and with which the partition walls of a polycyst can be broken down without introducing the hand into the sac. This large-sized trocar will empty a bucket of water in about a minute and a half. Whichever method is adopted, you should not forget to have the anæsthetic suspended while the evacuation is going on. The practice of rupturing the smaller cysts through the walls that separate them from the larger one is often, but not always safe or expedient.

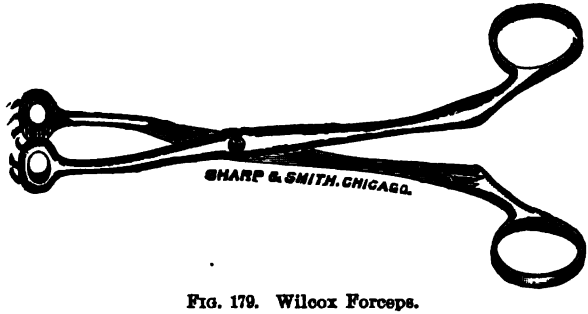


FIG. 179. Wilcox Forceps.

If there are adhesions, and they are seldom absent in genuine ovarian dropsy, they should be managed very carefully. I first examine the anterior surface of the tumor, and separate them in front before disturbing those which are behind, below, or at the sides of the abdomen. Then, if the cyst, or cysts, can be drawn slowly and deliberately through the incision, the more distant adhesions will be disclosed, and can often be separated without putting the hand into the abdomen. Stringy, vascular, fibrous, and especially omental adhesions should be ligated twice with fine gut, or carbolized silk, and cut between. It is sometimes necessary to include a mass of the omentum in a strong ligature in order to put a stop to the oozing at its torn edges; but in this case we should not forget that the arterial supply of the intestine might be readily cut off by the ligature. Or, being careful not to prick the vessels in the mesentery, we may darn up the torn edges with the continuous catgut suture.

The adhesions.

Enteric adhesions should be manipulated with the greatest care. By pressure with a hot sponge the gut is separated from

the tumor (the stripping being always on the side of the tumor) and the intestine brought out upon the abdomen where it is covered with a soft, warm, moist towel. If these, or any other adhesions can not be safely detached, the coats of the sac may be divided and so much of its peritoneal investment as corresponds with the extent of the adhesions left behind. In a terrible case, in which the tumor weighed *eighty pounds*, I resorted to this expedient and by the enucleation of nearly one-third of its surface averted death from hæmorrhage.* My patient made a good recovery and was well eight years after.

Enucleation in dangerous adhesions.

In a monocyst, if the wall of the sac is not too thin and tender, and if the adhesions extend over all, or nearly all of its surface, you may split its layers and enucleate the tumor and strip out

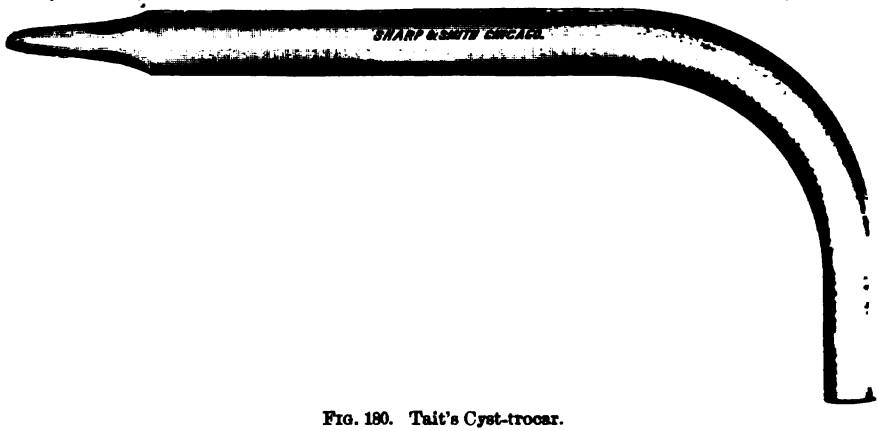


FIG. 180. Tait's Cyst-trocar.

its secreting membrane without disturbing the pedicle, or doing any serious damage. The hull will afterwards collapse and its surfaces adhere so as to dispose of the tumor. In October, 1873, I removed a thirty-pound accumulation of syrupy ovarian fluid in this way. The patient recovered, and twelve years after she had had no return of the tumor.†

Sponge pressure, torsion of single vessels, forcipressure, ligation, the use of the Pacquelin cautery, and afterwards the filling and flushing of the abdomen with water at the temperature of 103° to 105° or even to 115° are the best means for arresting the hæmorrhage from the torn adhesions. Wylie's expedient of clamping the pedicle before the adhesions are disturbed may answer the same

How to control the hæmorrhage from.

*The United States Medical Investigator, April, 1878.

†The U. S. Medical and Surgical Journal, vol. IX., p. 225.

purpose in exceptional cases. Oozing from a large abdominal surface may be arrested by making a fold in the integument, doubling the raw surface upon itself, and transfixing by an acupressure needle, or by the cobbler's stitch passed from skin to skin, as recommended by Dr. Kimball.

Experience has taught me that pelvic adhesions are the most difficult to manage, and that when they are extensive the tumor is almost always malignant. The possibility that adhesions may have formed low down in the connective tissue, about the pedicle, should make us very careful not to lift the tumor so high as to tear them at an inaccessible point, and so to induce death from concealed hæmorrhage. Dr. Emmet reports a death from undue traction upon the pedicle.

How to treat the pedicle has involved more experiment and controversy than any other step in the operation of ovariotomy.

Management of the pedicle.

Having turned the tumor out of the abdomen, and in the kindest and safest way disposed of the adhesions, you look for the stalk upon which it has grown, and through which its chief sustenance has been derived. It may be long or short, thick or thin, broad or

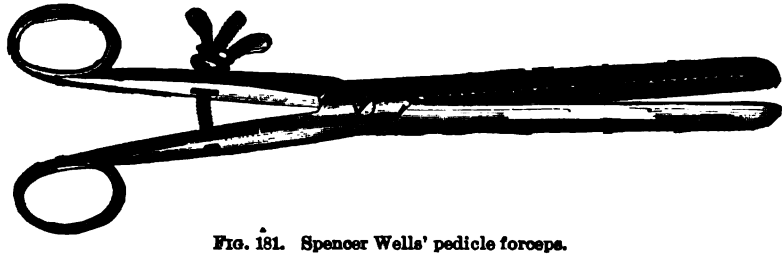


FIG. 181. Spencer Wells' pedicle forceps.

slender, single or double, and may or may not include the body of the uterus. When fully exposed it should be seized and compressed with a Spencer Wells' pedicle forceps or with the Baker Brown clamp-forceps. Having secured it, without including a bowel loop, the edges of the incision should be held together, and the lower angle of the wound covered all about the pedicle with warm towels or flannels. Then the tumor is cut away and the forceps remain astride the pedicle. The towels keep the blood and the fluids coming from the tumor from falling into the abdomen, and are afterwards removed, and the parts sponged clean.

Another method is first to compress the tissues of the pedicle with the forceps, then remove them and to pass the ligatures and tie them before the tumor is cut off. This plan is best suited for single cysts or small tumors, and also for securing the pedicle in oöphorectomy.

Now you must settle upon one of the two general methods of managing the stump: either it must be secured and held outside the abdomen, which is the *extra-peritoneal* method; or it must be ligated, or cauterized, or both, and then dropped back into the abdomen, which is the *intra-peritoneal* method. In the former case some kind of a clamp, such as Thomas's, (Fig. 182), or Spencer

The two general methods of.

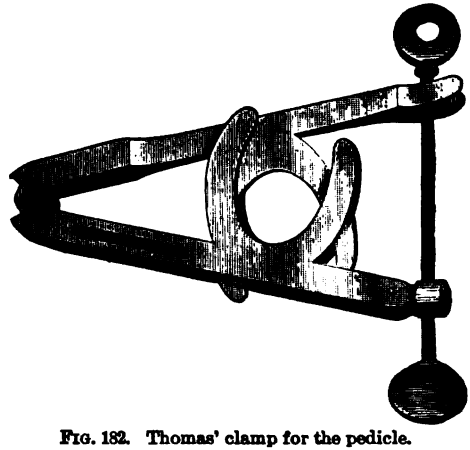


FIG. 182. Thomas' clamp for the pedicle.

Wells' (Fig. 183), is placed above, or below the forceps, screwed down and the forceps removed. The pedicle is then brought forward and the instrument placed across the lower end of the incision.

The clamp.

If, however, you determine upon dropping the pedicle into the

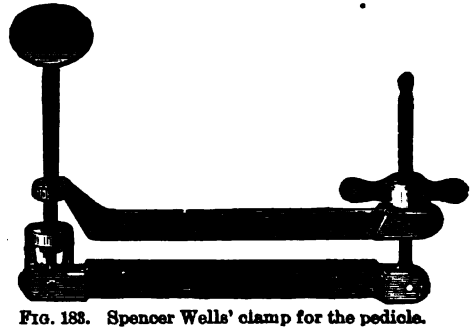


FIG. 183. Spencer Wells' clamp for the pedicle.

peritoneal cavity, as first practised by Dr. Nathan Smith, of Connecticut, in 1821, the course to be pursued is very different. By lifting the forceps or the attached tumor, the pedicle may be pierced between its vessels either by a Skene's needle, or by a straight one, at each end of

The ligature.

an aseptic silk ligature. If the pedicle is a narrow one, the Skene's needle will carry a loop that can be passed over the pedicle and secured in the form of the Staffordshire knot. (Fig. 184.) Or, if you prefer, you may cut the loop, and tie one thread each way about the two halves of the pedicle. But you must not forget to cross these two ligatures, or they may separate the halves of the pedicle and slip off. (Fig. 185.)

If the pedicle is a stout one it cannot be safely ligatured either *en masse* or in sections. It must be sewed with the cobbler's stitch and made very secure before the forceps are removed. And, when they are taken off, it is well to seize it with a pair of hæmostatic forceps on each side, so that it will not be lost sight of until you are ready to close the abdomen; for it may be necessary to put a separate ligature upon one or more bleeding vessels. The small forceps with gilt handles should be used for this purpose, and also for the application of sponges within the abdomen, it being desirable to identify them and their special use. Meanwhile the opposite ovary should be carefully examined and, if it is found to be diseased, drawn to the light, clamped with the

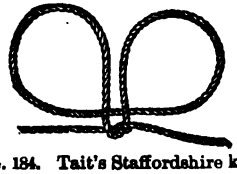


FIG. 184. Tait's Staffordshire knot.

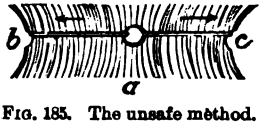


FIG. 185. The unsafe method.

forceps and excised in the same manner. This will constitute a double ovariotomy. All the ligatures should be cut short before the pedicle is dropped.

Having tied the pedicle and trimmed off its superfluous tissue the cautery may be applied to the stump until it is thoroughly charred. Dr. Keith, who divides the pedicle with the cautery and trusts to it without the ligature, applies it so as to heat the clamp-forceps and cook the part which is included in that instrument. In either case the eschar prevents all septic oozing and keeps the stump from becoming attached to the neighboring organs. For the last three years my own practice has been to use both the ligature and the cautery as a double precaution, and as a consequence the results obtained have been much better than they were before.

The actual cautery.

I am quite confident that by the revival of the Baker Brown method of treating the pedicle with the cautery and without the clamp, the elder Keith and Lawson Tait have put the profession and our

The objections to the clamp and to the extra-peritoneal method.

common humanity under a lasting obligation. For the clamp is indeed "a coarse, unsurgical instrument," which, through the establishment of septic channels from the sloughing stump directly into the peritoneal cavity, has slain many a poor woman who but for it would most certainly have recovered. And what is true of the use of the clamp applies also to the whole extra-peritoneal method in ovariotomy. Not only does the use of the clamp render the seeping of the septic débris into the abdomen almost certain: it also prevents the careful and thorough drainage from the Douglas pouch which is often so very necessary during the first few days.

The peritoneal toilet.

The cleansing of the peritoneum is a matter of the greatest moment. Not only must the abdomen be emptied of clots and débris, and all active hæmorrhage stopped, but the parts must be made absolutely clean, and the Douglas pouch especially be left as dry as a pocket. For slovenly surgery can be tolerated anywhere else better than within the abdomen and the pelvis. The more extensive the adhesions, and the older the tumor, the greater the danger of subsequent oozing and sepsis. If a rotten sac has been torn, or if from any other cause a portion of the fluid has escaped into the peritoneal cavity, extraordinary pains must be taken to clean it out thoroughly.

There are two methods by which the abdomen may be cleansed after the delivery of an ovarian tumor and the necessary ligation of its pedicle. One of these is by careful sponging, and the other is by washing and flushing it. No matter how soft the sponges, or how carefully they are used, they are so likely to do damage, especially if the peritoneum or the omentum are diseased, that the best operators have learned how to get along without them whenever it is possible. The most efficient and harmless substitute for them is the use of water at a temperature of 100°, or more if the hæmorrhagic tendency is pronounced. This may be run into the abdomen, while the flaccid parietes are being held up by an assistant, through a Tait's trocar used as a syphon; by a fountain syringe; or it may be poured in slowly by the pitcher-full until it overflows. Meanwhile the hand or the fingers may so manipulate and rinse the intestines and the other organs about the pelvic brim that they shall be washed quite clean. Whichever way the water is introduced its use should be continued until the overflow is clear and not discolored.

I have had frequent occasion to confirm the value of Tait's remark that the best means for dissolving the thicker and more sticky ovarian fluids (including the colloid material which is so

apt to escape from its cyst-wall when it has one, and which cannot be removed by sponging) is to pour on it a slow and steady stream of warm water. For this reason the cleansing should as far as possible be done with water, and not by sponging. And in removing the water the patient may be cautiously turned upon her side, or the tube by which it was introduced may be used as a syphon to carry it off again. When it is all out the parts may be examined by an electric lamp or by a hand-mirror, and the retro-uterine pouch carefully mopped with a soft warm sponge, or napkin, or with a bit of iodoform gauze.

Apropos of this intra-abdominal bath, in making the toilet of the peritoneum I warn you not to forget the invaluable suggestion of one of Dr. Sims' pupils concerning the efficacy of the hot water flushing in case of shock and great exhaustion.* To fill the abdomen in this way is the most rapid and available means of stimulating the necessary reaction. It possesses the double advantage of being in a line with the necessary local treatment, and does not interfere with the use of other restoratives.

Hot water flushing for shock.

The indications for drainage are identical with those which require that the abdomen should be thoroughly cleansed, with the added risk of hæmorrhagic oozing and serous accumulation after the wound is closed. The older the patient the greater the necessity for drainage, because the ability of the peritoneum to absorb and to remove effused fluids is sometimes very much lessened in this class of cases. Moreover, the vitality of women who have passed their fiftieth year and have developed an ovarian cachexia is often so low that they are easy victims of septic infection.

Drainage.

The attempt to do away with the necessity for drainage by rendering the peritoneal cavity thoroughly aseptic has been generally abandoned, and for the practical reason that it could not be made so and kept so without very great risk of poisoning the patient, no matter what antiseptic was used. The result has been that the old methods of drainage, which often did more harm than good, have been so improved that they may now be depended upon to keep the wound and all that it includes both clean and sweet. And since these conditions will avert sepsis and suppurative fever we must see to it that in all serious cases they are faithfully supplied.

Having tested the various methods of drainage I believe that the one which you saw applied in my clinic a few days ago is the

*Prof. W. Gill Wylie, in the *Medical Record* for March, 1887.

best. If you will take a Keith's glass tube (Fig. 186), or a Tait's do. (Fig. 187) and insert it at the lower angle of the wound its perforated extremity may be easily passed over and behind the uterus into the Douglas pouch. Then, having carefully dried the wound with a warm sponge, or with a bit of iodoform gauze, the tube should be held in place with its open end upwards until you have passed the sutures and are ready to tie or to twist them. Or, if you prefer to do so, you may pass the sutures first, and afterwards put the tube in position, before the

FIG. 186. Keith's glass tube.

wound is closed. The perforated tube that is closed at its lower end, like a test-tube, is preferable. It will need to be left in situ for from two to eight or nine days, or so long as the discharge obtained from it continues to be colored.

After counting the forceps and sponges, to be certain that none are left behind, a large, clean, flat sponge should be placed within the wound and over the intestines, to keep them warm, to prevent their being injured, and to keep all blood from the needle punctures from dropping into the abdomen. The sutures may be of prepared silk, the silk-worm

The sutures.

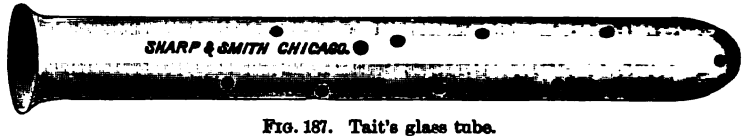


FIG. 187. Tait's glass tube.

gut or of silver. The first of these are so readily adjusted, so secure, and so thoroughly aseptic that I confess to a growing fondness for them in closing the wound in all cases of laparotomy.

Whether they are passed from within or from without, the deep sutures, which are not more than one-eighth of an inch apart, should include a pretty wide strip of peritoneum along the margin of the wound, the intervening muscular layer and the integument. This precaution will secure the immediate union and closure of the peritoneum, and so prevent the admission of infectious material from without. It will also keep the intestines from protruding in the form of a hernia, which once was so frequent a sequel of ovariotomy.

The deep sutures

Concerning the number and nearness of the sutures Dr. Keith says:

"In the early days of ovariotomy, when the wound was closed by harelip pins put in at intervals of an inch, a hernial protrusion was the rule; but since I have put in a great number of sutures, and I think I put in twice as many as any one else, and take in the whole deep tissues of the wall, I have seldom had to see a patient on account of any discomfort arising from the wound. There is no greater mistake than to include only the skin and peritoneum. This is Sir Spencer Wells' method. It saves trouble at the time perhaps, but in a month or two the patient suffers. It is said that the cicatrix comes to this in the end in all cases. It does not; with a properly united wound, with a sufficient number of deep sutures taking in all the tissues, no hernia ought to happen. I am not sure but the wound is firmer when the middle line is avoided, and the sheath of one of the recti muscles is opened throughout."

It is a good plan to insert all the deep sutures before tying any of them, the ends being held on either side within the jaws

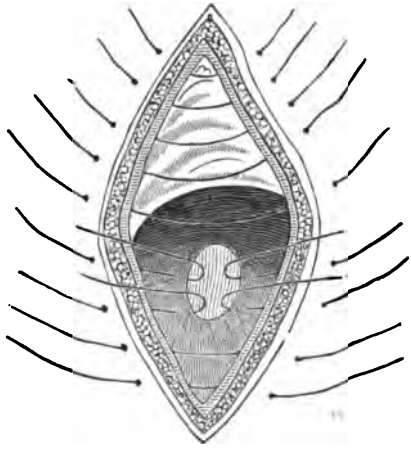


FIG. 188. An emptied cyst, or sac, to be stitched to the abdominal wound.

of the lock-forceps. This ensures the exact adjustment of the edges of the wound, favors the removal of the underlying sponge after they have all been passed, and enables one to decide upon the necessity of stitching the peritoneum separately. I like Thiriar's idea of first bringing the edges of the peritoneum together with the continuous catgut suture, and afterwards tying the deeper ones. This method is adapted to the closure of a long incision, especially if it had extended through the umbilical ring, and is designed to dispose of a hernia, and also to one in which the walls of the abdomen are

The continuous peritoneal do.

The superficial sutures.

unusually thick. If any superficial sutures are required they should be of catgut, in order that the dressings need not be disturbed for their early removal.

In very exceptional cases the tumor cannot be removed and the only alternative is to empty its contents, stitch the edges of the cyst into the abdominal wound, and drain its cavity. The sutures will in that case need to be passed in the same manner as for the radical cure of pelvic abscess, or for the ultimate disposition of the sac in extra-uterine pregnancy. (Fig. 188).

The special suture for a retained cyst.

The wound being closed, the abdomen is quickly cleansed and dried, and the line of the incision sprinkled with iodoform. Then a compress of iodoform, mercurial, or carbolic gauze two or three inches wide, is laid along the wound, and adhesive straps are put across it, so as to keep it in place, and to afford the requisite support in case of vomiting. Over this is a good thick layer of absorbent cotton, or of cotton batting, which is secured by a binder around the body. Before the binder is adjusted, however, if the drainage tube is being used, pledgets of the same gauze are placed all around at the lower angle of the wound. Then we take a square bit of thin rubber-cloth, as big as a lady's pocket handkerchief, cut a little hole in the center of it and put it down over the free end of the tube, after the fashion of the dentist's rubber-dam. This is carefully folded, one corner at a time, over the open mouth of the tube, and not only serves to keep the air from the abdominal cavity, but also furnishes a ready means of knowing what is going on inside.

The first dressing of the wound.

The dressing of the drainage tube.

The soiled clothing having been removed, the bed should be open and ready, and the patient carefully carried to it from the table. Her body should not be doubled in the middle, nor should the head be raised. Warm blankets should be placed about her legs and bottles of hot water (but not too hot) at her feet, and elsewhere, to arouse the circulation and stimulate a reaction. But, the operation being finished, we shall speak of the after-treatment and the results in ovariotomy at our next lecture.

Putting the patient to bed.

LECTURE LX.

THE AFTER TREATMENT IN OVARIOTOMY.

The importance of; quiet and absence of visitors; the temperature of the room; shock and reaction; pain and restlessness; the pulse and the clinical thermometer; thirst and appropriate drinks; the diet; flatulence and tympanites; Dr Jenks' expedient for; *case;* nausea and vomiting; do. with sepsis and peritonitis; from gastro-intestinal ulceration; *case;* the urine; the condition of the bowels; salines in peritoneal complications; the care of the drainage tube; dressing the wound; re-opening the wound for secondary hœmorrhage; for the intra-peritoneal bath; *case;* for secondary drainage; the removal of the sutures; the convalescence and the first getting up; *case;* contingent affections; bronchitis and pneumonia; *cases;* parotitis; phlebitis, phlegmasia, thrombosis; acute mania; case; bed-sores in old patients. *The results in Ovariotomy;* the causes of the comparatively low death rate of late years.

The after-treatment in ovariotomy, as in all cases of peritoneal surgery, is of the utmost importance. In everything that pertains to the care of these patients you should bear in mind the homely old maxim quoted by one of my nurses a day or two ago: "It is better to be sure than sorry." All the little details must be looked after most carefully, and the beginnings of morbid mischief averted or arrested without delay. Any preconceived notions of luck or fortune as connected with the recovery of ordinary surgical cases; any prejudice in favor of the all-powerful influence of antiseptic precautions, or confidence in the patient's general good health, or her pluck to "pull her through," no matter what happens, should not be allowed to interfere with the most cautious and careful management of the case in hand. For, even in the simplest and most promising case, the *techniqne* of the nursing for the first fortnight, or longer, may be quite as important as that of the operation itself.

Importance of.

To begin with, as soon as the patient is put to bed, if the operation has been made in the same room, the table, instruments, and everything that is not needed should be taken away, and as quietly as possible. From the very outset she will need the same general treatment as if she had passed through a perilous childbirth. No noise, or stir, or flurry, or whispering should be allowed; and as much as possible the patient should be left alone with the nurse. If she sleeps quietly and breathes well, let her alone. If she flounders, she must not be permitted to turn upon either side.

Quiet, and absence of visitors.

If the weather is cold, or the nights are cool and damp, or if it becomes rainy, the temperature of the room should be carefully regulated. A thermometer should be kept for this purpose and frequently consulted. For the first four days the temperature should not be allowed to fall, day or night, below 70°, nor should it exceed 75°. If the weather is warm, the windows must be kept open. Fresh air and plenty of it is indispensable in all cases.

The temperature of the room.

If the condition of the pulse and of the skin show that she is reacting from the shock, she may not need anything but to be kept warm in bed, and to have a good supply of fresh air. But if she has been greatly exhausted, and the pulse flags and the skin is cool, give her a hypodermic injection of rye whiskey every hour, or oftener. This will antidote the depressing effect of the ether, and tide her over the difficulty. In very weak cases I have sometimes ordered this prescription to be repeated every hour or two during the first night, or until food could be safely taken. In the case of an Irish woman living in a miserable shanty on Quincy street, and who had one of the worst ovarian tumors that I ever removed, the parent-sac burst and its vile contents were extravasated into the abdomen. This was before we knew anything of flushing the peritoneum or of drainage, and while we were still crucifying our patients with the clamp. She was extremely weak, did not react well, could take no food, and but for the whiskey, which she took by the mouth after the first twelve hours, must certainly have died.

Shock and reaction.

Inhalations of spirits of ammonia or of camphor, or, in case chloroform has been administered, a whiff now and then of the nitrate of amyl, or a hypodermic of sulphuric ether, may be of good service to stimulate and to resuscitate the patient.

In some cases where the pain and restlessness are pronounced, it is a serious question whether an opiate of any kind should be given. Of late years I very much prefer not to allow it unless the necessity for rest is imperative, when a hypodermic of morphia with atropine is best. My friend Helmuth extols the internal use of hypericum for this purpose; but my reliance has generally been upon frequent doses of aconite 3, and arnica 3, in alternation.

Pain and restlessness.

The pulse is more trustworthy than it is in a lying-in-woman. But, like either of the probable signs of pregnancy, it will not answer to depend upon it exclusively. We want something with which to compare it, and, so to speak, to balance its record. And that something is the clinical thermometer.

The pulse.

By the careful and intelligent use of this instrument we obtain a more accurate idea of our patient's condition than we can possibly have in any other way. When a septic contingency is sprung, it sounds the first alarm. And not only does it notify us in season, but it often tells us whether or not we are doing the right thing. The information which it gives concerning the patient's condition will be as absolute and exact as possible. It will not be biased by the caprice, the fears, or even the sufferings of the patient, by the story of the nurse, nor by the hazy intuitions of the doctor.

The clinical thermometer.

The temperature may be taken by the mouth, or by the vagina. If the respiration is normal, place the bulb of the instrument beneath the tongue, and then have the mouth closed. Leave it there for two minutes by your watch, and then make a note of the temperature upon a sheet of paper that is kept for the purpose. For the first day or two the observations may be taken every six hours, after which they should be repeated every morning and evening, as in our puerperal ward. The pulse should be taken at the same time and carefully recorded.

Manner of using it.

Keep these figures, so that you can consult them; for, not unfrequently it is quite as important to look over the past record of a case, as it is to forecast its future. The clinical hints, as to diagnosis, prognosis, prophylaxis, and treatment, that you will derive from this study are the counterpart of those which are proper to the disorders of lying-in, and you can do no better than to translate and apply them in a similar way.

Value of the record.

Almost the first complaint is of thirst; and if you have not laid down the rule very plainly and peremptorily, the nurse or some kind friend will be tempted to give your patient something to drink. Sometimes the craving for water is almost irresistible, but it is so likely to excite vomiting that it is not safe to allow it within the first twelve hours. Meanwhile, the mouth and lips may be moistened with a cold, wet rag, or a pellet of ice may be allowed to dissolve in the mouth occasionally. When the effects of the anæsthetic are gone we usually begin with hot, instead of cold drinks. Hot water, hot tea, or better still, hot milk and water may at first be taken in very small quantities, and not too often, to test its tolerance, and afterward more freely. If the stomach remains irritable, the carbonated soda or champagne may be given. A pint of tepid water as a rectal enema will sometimes allay a tormenting thirst. For the first forty-eight hours the remedies

Thirst and appropriate drinks.

should be given in powders or pellets, else the water which holds them in solution may readily excite vomiting.

The diet.

Of all the articles of diet that are available for these cases, especially during the first week, the best is good cow's milk; but, for fear of inducing colic, it should be diluted and taken very warm. Where it has disagreed with the patient heretofore, it may be peptonized. A light gruel of oatmeal is always permissible, and so also is genuine home-made beef tea. Barley water with cream may be kindly received by a delicate stomach, which will afterward tolerate good mutton broth, oyster soup, or something more substantial.

The best rule that I know of in the matter of feeding these patients is to wait until flatus has first been passed by the bowels before giving them anything hearty. For this purpose my habit is to instruct the patient to tell the nurse when this has happened, so that we may know how to proceed. By this simple sign we can be assured that the proper peristaltic action of the alimentary tract has been resumed, and that neither emesis nor flatulence are so likely to follow the taking of food. And, although we do not in these modern times expect the patient always to drag through a tedious suppurative process before she recovers, it still is best to feed and to fortify her as soon as it can be done with safety.

Flatulence and tympanites.

One of the most annoying and rebellious symptoms is flatulency. It may be due to the dyspeptic habit; to a superficial ulceration of the gastric or the alimentary mucous membrane that is septic in character and chargeable to auto-infection in old cases of ovarian dropsy and uterine tumors; or to the intestines having been chilled, or traumatized, or perhaps twisted when they were being reposited before the wound was closed. For the dyspeptic flatulence, if the patient is intelligent, it is a good rule to allow her to take whatever has relieved this symptom in her former experience. If she has observed that a drink of hot water would do it, let her have it again; or soda or camphor, or peppermint, or whiskey, or what-not; but you must try the effect of these things carefully, for if this symptom persists it may develop into obstinate vomiting.

Nausea and vomiting.

If from the previous history of the case you have reason to believe that there is gastric ulceration, argentum nitricum 6, arsenicum alb., phosphorus, or nitric acid may possibly have a good effect. If there is much distention give chamomilla, colocynthis, belladonna, or nux vomica,

and *change the position of the patient.* While this symptom continues all food and drinks should be given by rectal enemata, and nothing except the dry medicine taken by the mouth.

These means are also suited to overcome any slight intestinal obstruction, with or without tympanites, especially should the patient be turned toward one side or the other slowly and gradually, and propped in that position. Her head and shoulders may be raised, and her position so changed as to favor the escape of gas and to add very much to her comfort. In the worst of these cases, where life is imperiled by the occlusion of the bowel and the accumulation of gas, recourse may be had to another kind of postural treatment that was first practised by Dr. E. W. Jenks, of Detroit, in 1878. He published a remarkable case, in which, at the ninth day after an ovariotomy, "the patient was seized with a severe attack of vomiting, which caused the clamp to be torn loose, the lowest suture to be also torn out, and the lower angle of the abdominal wound to yawn, through which gap the serum from the abdominal cavity exuded for two days." The usual remedies relieved the tympanites, and there was no "doubt of her ultimate recovery until the twenty-third day after the operation, when the tympanites again became troublesome, and she complained of her inability to pass any flatus by the rectum, and of pain in the region of the pedicle." All other means having failed, a long rectal tube was passed as far as the sigmoid flexure of the colon, where it encountered the seat of an obstruction which a copious injection could not overcome. The symptoms became more distressing in character, hiccough set in, the countenance was pinched and anxious, the vomiting was more frequent, and she grew rapidly feeble.

Dr. Jenks' expedient for tympanites from intestinal obstruction.

"She seemed so near moribund from exhaustion that she was entirely indifferent as to what was being done for her. With the aid of my colleague, Prof. Andrews, and one of my assistants, I took the patient from her bed, and gradually inverted her; there was no effect manifest from partial inversion, but when we got her in the position of complete inversion, really standing upon her head, there was, to our gratification and the manifest relief of the suffering woman, a rush from the anus of the pent up intestinal gas, coming out with a force more remarkable than anything of the kind I ever before witnessed. The patient, as she began to experience relief, instead of being passive in our hands, complained in no mild terms of the unkind and ungentlemanly treatment she was receiving. From this time there was no further trouble; if the gas seemed to be accumulating or was not readily expelled, raising her hips, gentle kneading, or turning her from side to side

would cause it to be expelled. The patient encountered no more difficulties, and made an excellent recovery.*

If there is a form of volvulus which this expedient will not relieve, the wound should be re-opened, and the twist of the gut about its mesenteric axis, or upon itself, or whatever lesion may obstruct the passage of flatus, carefully sought for and relieved. This is a last resort, but it should not be deferred too long.

"The trinity of peritonitis, tympanites, and vomiting are the furies of abdominal surgery. When they have taken firm hold of a case, we may make up our minds for a fierce struggle before they can be ousted. The longer they abide, the more difficult are they to be got rid of; therefore, we ought to be prepared at every point to meet them with the most trustworthy weapons and the most approved tactics."—(*Greig Smith.*)

Nausea and vomiting.

That this triple source of mischief and of danger has been in a measure obviated by the adoption of the intra-peritoneal method of treating the pedicle, and by careful drainage, there can be no doubt. The dragging of the stump through the wound and its fixation by the clamp was often a cause of vomiting that nothing would relieve; and the sepsis which came from the accumulation of blood and serum in the Douglas pouch and behind the bladder often developed a dilatation of the stomach and the regurgitation of the ingesta which might be palliated but could not be cured. Now we know that these causes are avoidable, and that, with some rare exceptions, we need not be discouraged if the nausea and vomiting do not promptly yield to the appropriate treatment.

It has been observed that vomiting is more apt to occur in cases in which numerous ligatures have been applied to the adhesions during the operation; but now that the hæmorrhage is arrested by sponge-pressure, by prolonged pressure with a soft cotton cloth, as advised by Dr. Kimball, or by a stream of very warm water, this cause of emesis is also avoidable. In most cases, however, the tendency to eructations and to an intolerance of food and drinks bears a certain relation to the flatulency, and the treatment already given for that symptom is also suited to this. A sip of hot water occasionally will sometimes settle a turbulent stomach just as a slight shower calms the stormy sea; but it will not always do it. And so also will a few doses of ipecac. or of mercurius, especially if the tongue is pasty, or of other remedies under their usual indications. In some cases relief is obtained, for a time at least, by having the patient drink a large quantity of warm water, so as to completely empty the

*American Journal of Obstetrics, the Diseases of Women, etc., Vol. XI, page 513.

stomach. In others the same effect has been induced by rinsing the organ with the stomach tube, or *gavage*.

But the serious question is whether a persistent vomiting, or one that occurs after the first few days or a week, is not due to some form of sepsis, or to peritonitis, or to both these conditions. If it is, the most active measures will be necessary. We must look to the drainage of the abdomen, or we must resort to intra-peritoneal injections, and even, if necessary, reopen the wound to get rid of the local cause of the trouble. Under the old *regime*, nature cured some of these cases by bursting open the incision and giving vent to the contained fluid, after which the patient recovered in spite of the doctor.

With sepsis and peritonitis.

If there is an accompanying diarrhœa it is evidently critical, showing that a form of intestinal drainage has been established which may prove salutary. Long before Tait had prescribed saline cathartics as prophylactic of peritonitis following abdominal operations, some of us had observed this fact; but it was for him to insist that we may induce free watery stools to abort this form of inflammation. If you are satisfied that your patient either has, or threatens to have peritonitis, you may remember this hint and act accordingly.

In old cases it sometimes happens that, through a depraved cachexia, and the possible absorption of some of the cyst-contents, an irrepressible vomiting with dilatation of the stomach will depend upon ulceration of its lining membrane. The following is a case in point, the lesion being confirmed by an autopsy. The patient was brought to me by Prof. C. W. Eaton, of the University of Iowa.

From old gastric and intestinal ulceration.

Case—Mrs.——, of Des Moines, was forty-eight years old, married, and the mother of four children, the youngest being four years old. All of her labors had been difficult. She was a woman of intellectual tastes and of nervous temperament. She first observed an enlargement in the epigastric region about one year ago, and the most unpleasant symptoms attending it were referred to the stomach. The paroxysms of pain and indigestion which were followed by vomiting, soon became so frequent that she was forced to diet herself very strictly to prevent them. She had also been subject to hæmorrhoids and to inveterate constipation, and at times the urine had been very copious.

The abdominal distention finally became so great that her physician thought it advisable to relieve it by tapping, which he did about two months ago, when seven and one-half quarts of reddish brown fluid were withdrawn. In six weeks, she was again tapped,

and eight quarts of a pale amber-colored fluid were taken. The third tapping was performed about ten days previous to the operation, and five and a half quarts of a dirty brown fluid were removed. At each tapping the fluid was highly albuminous.

Her menstruation had been normal in every respect, and she had not reached the climacteric, although there were signs of its near approach.

I made the operation in the hospital, November 6, 1880, with the assistance of Drs. Shears, Crawford, Eaton, Reynolds and Paul. The patient bore the anæsthetic very well, and the operation lasted one hour and a quarter. There was a good deal of venous hæmorrhage from the incision, and the parietal and lateral adhesions covered the whole right and part of the left side of the tumor. This tumor consisted of three lobes, the largest of which was crowded into the epigastric region. It weighed twenty-five pounds and proved to be of the endogenous variety, each of the lobes containing a great many cysts of various sizes.

The patient reacted well, and gave the best possible promise of recovery. She was under the constant supervision of Drs. Shears and Eaton. With the exception of pain in the gastric region as from gas, and a great deal of nausea, which began on the second day, and continued with eructations, she was quite comfortable until the morning of the third day, when she vomited badly. She then became very thirsty, weak and tremulous, with heat of the head and of the hands, dryness and redness of the tongue, gastric tympanitis, and scanty urination. In the evening the abdomen was washed out, but the fluid that was withdrawn was clear and unchanged. On the fourth day the vomiting was almost incessant with absolute intolerance of food. Rectal enemata had the effect, apparently, to increase the vomiting. The epigastric reigon became enormously distended, and the urine less free. Remedies had no effect whatever on the nausea and vomiting, and she died at eight A. M. of the fifth day.

The post-mortem was made with the assistance of Drs. Crawford and Paul, and in the presence of Profs. Hall and Leavitt, and of Class No. 8, from my sub-clinic. An incision was made parallel to that made in the operation, and two inches to the right of it. By careful examination, the wound was seen to have healed very kindly and completely, both internally and externally. The site of the extensive parietal adhesions was plainly observable, but there were no signs of peritonitis, either there, or anywhere within the abdomen or pelvis. There was no effusion of lymph upon the intestines, no blood, or bloody serum, or clots, anywhere, nor was there a drop of pus to be found within the peritoneum, along the incision, or about the pedicle or the clamp. In all respects the process of union and of repair had proceeded without any obstacle or complication whatever.

The stomach was found to be greatly dilated. Its external

appearance was healthy. It contained about three pints of dirty ochre-colored water. On being opened along the whole length of its greater curvature, nearly one-half of its mucous surface was found to be highly congested, and in a state of violent inflammation. Near its middle portion, and along the larger curvature, where three distinct ulcers, the largest of which was as big as a three-cent piece. These were in the midst of the inflamed area, and were evidently acute and active in character, being partially covered with pus. On either side of these recent ulcers was a row of dark-colored spots which all who were present recognized as so many cicatrices of ulcers that must have healed. These spots had the appearance of so many shot-holes, and there were more than twenty of them.

Sometimes this ulcerative tendency is coupled with strange caprices of the will, as well as of the appetite in old dyspeptics.

Case.

Such patients have little pluck and fortitude, and are discouraged from the outset, or they antagonize all efforts to regulate the diet and to get them through without serious trouble on the part of the stomach. On May 17, 1883, I removed an old polycyst from a patient, for my friend Dr. C. W. Crary, now of Kenwood, Ill. The woman was 62 years old, a theomaniac, and therefore a confirmed dyspeptic, who did not care to get well, but who did "want to go to Heaven." She floundered through thirteen days of convalescence, gave the doctor and the nurses the greatest trouble and anxiety by rolling about and doing everything by contraries, and ended the scene by eating a lot of indigestible food. There were no septic symptoms and the wound had united perfectly. The autopsy disclosed deep ulceration at three different points in the mucous membrane of the duodenum.

Although we generally advise to have the urine drawn every few hours during the first afternoon and night, it is best to

The urine.

encourage the patient to pass it in a natural way. Without the clamp there is no drawing of the pedicle over the fundus of the bladder and its gradual distention can do no harm. By voiding it herself she is spared the strangury and the catarrh of the bladder and of the urethra which used sometimes to last for weeks. 'Much discomfort has been saved the patient by her being allowed to empty her bladder herself, and not having this done for her. Why the catheter should be passed two or three times a day I have never been able to understand, when the patient can almost always accomplish this for herself. It was the rule, I suppose, just as it was the rule to have the bladder emptied before operation." (*Keith.*)

Partial or complete suppression of the urine is a serious symp-

ton. It either signifies that the bladder or the ureters have been injured during the operation; that the patient labors under an old renal disorder; or that, from the use of the sulphuric ether, from the shock, or from some similar cause, the function of the kidneys has been suspended. The risks from uræmia added to those of septicæma are very great, and therefore, as soon as possible the flow must be restored. Aconite, apis, belladonna, hyoscyamus, or a kindred remedy may be indicated, and warm moist cloths should be applied to the pudenda. If the stomach will bear them, diluent drinks should be freely given. Thornton advises an expedient which, although it would seem to be hazardous, may yet be permissible in extreme cases, which is to bare the patient's arms and to pack them in towels that are kept wet with ice-water.

Even in the simplest cases it is best to prevent the bowels from becoming constipated. Laxative food and cooked fruits may be allowed, if everything goes on well, after the close of the first week. Nux vomica, lycopodium and kindred remedies are often useful. Rectal enemata of warm water are almost always grateful, and may be repeated, if the patient does not object, every third day, beginning at the fifth or sixth day. In some cases the mineral waters, especially Hunyadi water, are to be preferred. Hypercatharsis is harmful unless an attack of peritonitis is imminent.

The condition of the bowels.

I am fully persuaded of the efficacy of saline cathartics where there are signs of peritonitis following an abdominal section. The old idea that the bowels should be cramped and put into a state of paresis with opium was all wrong; and so also was the practice of neglecting them altogether. Tait's habit of giving the sulphate of magnesia every hour until the bowels are moved is an invaluable resource where the pulse and the temperature are increased, the discharge from the drainage tube has stopped, or nearly so, and the local signs of peritonitis are present. The action of the drug can be facilitated by enemata of warm soap-suds; and the free watery stools that follow will secure a kind of intestinal drainage that will avert the threatening inflammation, just as a free sweat may abort a fever. He says: "If these symptoms advance to an alarming extent, I use still more active measures to get the bowels moved, *because I always find that as soon as a motion has passed they rapidly disappear.*" Whenever these symptoms arise, if the bowels have not moved spontaneously and freely, we may have recourse to this expedient, beginning, if necessary, as early as the second day after the operation.

Salines in peritoneal complications.

Directly the wound is closed, especially if the adhesions were

extensive, there will be a more or less free discharge of bloody serum into the abdominal cavity. The quantity thus secreted sometimes amounts to a pint or more without doing any harm, provided only, that it is not retained within the peritoneum. The object of the drainage tube is to collect this fluid and to convey it out of the body. That tube will also notify us of the existence of any secondary hæmorrhage, with which the serous flow must not be confounded. To prevent the accumulation of serum in the Douglas pouch, which is the most dependent portion of the abdominal cavity, the glass tube should for the first few days be carefully emptied at regular intervals. For this purpose the corners of the rubber cloth are turned back and a bit of clean, carbolized rubber tubing to which a syringe is attached is dropped into the glass drain, and the serum is sucked out of it very slowly and carefully. The tubing may be used as a syphon for the same purpose; or you may pass the long nozzle of a clean, hard rubber uterine syringe directly down the glass tube and so withdraw the mischievous serum. The rubber-dam should afterwards be closed as snugly as at its first application. In bad cases this little operation should at first be repeated every three hours, but, if all goes well, it will not be necessary after a little to make it so often. In from one to four days, if the serum has lost its color and the patient's temperature is not above 100°, the drainage tube may be withdrawn, great care being taken to keep its old site covered and protected by antiseptic gauze until it has healed by granulation.

The care of the drainage tube.

Happily the dressing of the wound is now reduced to the minimum of simplicity. If all goes well the only thing to do for the first week is to *let it alone;* and after that to keep the binder, the gauze and the clothing clean and sweet. The dry applications that were made when the wound was closed will secure union by the first intention, and that is exactly what is wanted. The pedicle is safely within the abdomen, where it belongs, and the serum that exuded is safely outside the peritoneum, where it can do no possible harm; and so the local conditions of repair and of recovery are all that could be desired. Further on, if there are stitch-hole abscesses, or mural abscesses, or if there is evidence of suppuration along the margins of the wound, the topical use of calendula and the removal of the cotton, will be necessary. If the discharge of pus is free, or long-continued, silicea should be given internally, and a good nourishing diet ordered. If there is any odor to the discharge, an antiseptic may be added to the calendula lotion.

Dressing the wound.

It is only in extreme and very exceptional cases that it ever becomes necssary to reopen the abdominal incision. If the drainage tube fills, and continues to fill with real blood, and there are manifest signs of sinking from internal hæmorrhage, some and possibly all of the sutures should be removed, the wound reopened and the pedicle and the site of the adhesions carefully examined to find the source of the mischief. Whatever it is, and wherever it is, the most prompt and thorough measures should be taken to overcome the difficulty, after which the peritoneum should be carefully cleansed and closed. Secondary hæmorrhage is sometimes induced by excessive retching, by rolling in the bed, or by getting up suddenly, and by the slipping of the ligatures in the pedicle. It sometimes happens in women of an hæmorrhagic diathesis, and in those in whom the pedicle is old and unsound. In the *Medical Record* for this month (Nov. 12, 1887) you will find the report of a very remarkable case in which the abdomen had to be reopened in a hæmorrhagic subject, and in which life was saved after extreme loss of blood by the transfusion of salt and water. A favorite solution for this purpose is that of Mikulicz, which is composed of the carbonate of soda eight grains, chloride of sodium one and a-half drachms, dissolved in one pint of warm distilled water. Of this solution twelve ounces may be slowly transfused into the radial artery or the radial vein.

Reopening the wound.

The secondary hæmorrhage.

If pyæmic conditions are developed and you are satisfied that suppuration has taken place within the peritoneum, you may open the wound at its lower angle sufficiently to allow the passage of the aspirator-canula through which the contained serum, or pus, may be withdrawn and the cavity afterwards flushed and cleansed. In one of Dr. Peaslee's cases this washing out of the abdomen was continued for fifty-nine, and in another for seventy-eight days, and both patients recovered.

The intra-peritoneal bath.

The following history shows what this expedient accomplished in one of my worst cases under the old clamp-and-no-drainage method:

Case.—Mrs. B., aged twenty-five, was sent to the hospital by Dr. W. A. Allen of Rochester, Minn. She was a small and very delicate woman naturally, and was in a very weak condition when she came to us. I made the operation in the old hospital building, July 6, 1880. There were present as assistants Drs. Shears and Paul, house physicians, and Drs. E. S. Bailey, C. E. Laning, A. K. Crawford, and B. L. Reynolds. The cyst was a compound one, and

attached both anteriorly and laterally by adhesions that were very firm and vascular. Listerism was freely used to prevent infection, for several of the sacs were so attenuated that, in spite of the greatest care, they were ruptured before the tumor could be delivered. The remaining cysts, which were afterwards opened in the presence of the Clinical Society, were many of them endogenous, and numbered in all about one hundred. The tumor weighed thirty pounds.

She reacted well, but the second day suffered from nausea and distention of the stomach with gas, and finally vomited a dark green fluid. This gastric irritability continued at intervals, with great thirst, flatuence, and intolerance of food, for three weeks. The clamp dropped on the seventeenth day, at which time a swelling had formed on each side of the bladder. On the twenty-third day the abscess found vent about the pedicle, and a large quantity of dirty grayish fluid with a foul odor escaped. At evening the abdomen was filled with a weak solution of chloride of sodium in slightly carbolized water at a temperature of 102°, which was thrown through the canula of the aspirator and afterwards withdrawn by the same means. The overflow was mopped with sponges, and the cavity of the peritoneum was thoroughly cleansed and irrigated. This operation was repeated five times in all on alternate days, and always with comfort and relief to the patient. The second time that it was made nearly a pint of stinking pus was first taken by the aspirator. On the twenty-ninth day another large abscess, which was located between the lower angle of the wound and the pubes, and which contained half a pint of pus, was discharged.

The stomach did not recover its tone, nor did the appetite return until after the flushing of the abdomen was begun. Besides, the pulse was not below 100 three times in three weeks until after the first abdominal injection. The highest temperature was 103°, the total variation, however, was only about two degrees. She made a final and complete recovery.

Secondary drainage, if necessary, should be made with a soft rubber instead of a glass tube. It is not very satisfactory, however, unless the noxious fluids are easily accessible, in which case the tube may lie beneath and parallel with the wound, and may be left there until these fluids are thoroughly drained off. The outer end of the rubber tube which can be pierced and fastened to the binder with a safety-pin, must be carefully covered to prevent the admission of air into the peritoneal cavity.

For secondary drainage.

The object of placing the superficial sutures with catgut is that the wound need not be disturbed until the time has arrived for removing the deeper ones. That time varies from a week to ten days. If the wound is dry and sweet, and the line of union is perfect,

The removal or the sutures.

and especially if the tumor was a very large one, or if the abdominal parietes are very thick, it is better to leave them until the tenth day. But if they excite redness or irritation, or if either of them acts like a seton, has gotten loose, or cuts into the tissues, it should be taken out. Now that the rule is for recovery to follow without suppuration, I prefer to leave the sutures a few days longer than was the custom some years ago. They do no harm and certainly afford additional security against a ventral hernia. It is good practice to remove a few of them at one time, say each alternate one, leaving the others for a day or two longer. For a day or two at least, after they are removed, the patient should not be permitted to lie upon either side. The abdomen must be carefully and constantly supported by adhesive straps and a binder, which latter, in the form of a snugly-fitting abdominal belt, should indeed be worn for six or more months after she is about again.

The duration of the convalescence is by no means uniform. It is not safe for the patient to leave her bed within the first fortnight, and circumstances may require her to remain therein for five or six, instead of two weeks. The older the patient and the worse the character of the contents of the tumor, the more tedious the recovery, and the greater the risk of the first getting up. Three years ago I removed a large multilocular tumor from an old lady at Rochelle, Ill., the patient of Dr. W. A. McDowell. The tumor was chiefly colloid and solid, and the adhesions were very bad. Through good nursing and care on the part of the doctor and her own daughter, she progressed so favorably that on the twenty-first day the doctor told the family that it would not be necessary for him to come again. The next day, while the daughter was out of the room for a few moments, the old lady conceived the idea of surprising her, and so got out of bed and walked to the rocking-chair; but when the daughter returned her mother was dead! She probably died of pulmonary embolism.

The convalescence and the first getting up.

The safer way is to prop the patient in bed, and gradually to bring her into the upright position. At first she should not be permitted to sit up but a little while at a time, the abdomen being carefully supported meanwhile. Little by little the length of these sessions may be extended, and finally she can stand and walk with safety.

Women who are predisposed to respiratory affections are likely to have trouble during their convalescence from ovariotomy. Elderly women are more subject to bronchitis, broncho-pneumonia, and catarr-

Contingent affections: bronchitis and pneumonia.

hal affections of the air passages than those who are under fifty. If the operation was made in bad weather, or if it becomes stormy afterwards, these cases will require special care to prevent them from taking cold; and the first signs of a coryza, angina, or a cough, must be prescribed for promptly. Sometimes an ambitious woman will have overdone and exposed herself so as to contract a severe cold directly in advance of the operation, in which case she will enter upon it just as others do upon labor, only to develop some after-coming disorder. Mrs. M., living at 116 Gurley street, the mother of nine children, and 44 years old, cleaned, scrubbed, and helped to whitewash the room in which I afterwards operated. She did much more beside, and contracted a severe cold in advance of the operation. The tumor, which was very condensed and solid, was removed entire through an incision of fifteen inches. The omental adhesions were so extensive and vascular that it was necessary to ligate and to excise a large portion of that structure *en masse*. On the second day she had pains in the left chest and shoulder and a harassing cough. The case developed into a serious attack of broncho-pneumonia, which was not fully overcome until after the fifteenth day. The highest temperature noted was 102·5°, and the highest pulse 130. She convalesced slowly, but made a complete recovery.

Parotitis.

More rarely there is a swelling of the parotid glands, such as sometimes follows other abdominal and pelvic operations, including Emmet's operation for a lacerated cervix, and the operation for vesico-vaginal fistula. This form of mumps is either of a sympathetic or of a septic origin. It may become pyæmic, and sometimes the periosteum of the inferior maxilla is involved. Warm applications and emmollients locally, and mercurius, belladonna, or other indicated remedies should be given internally. This "parotid bubo" should not be lightly regarded, even although it may not be attended by grave constitutional symptoms. The glands do not always suppurate, although the lesion is more likely to arise during the second or third week. Dr. Goodell is evidently right in supposing that, while this complication may follow ordinary surgical operations, it is more liable to happen after those which have been made upon the sexual organs; and that the sympathetic form of this "parotid bubo" which is independent of blood-poisoning is not necessarily dangerous.

Phlebitis, phlegmasia, thrombus.

If the patient makes a special complaint of pain in either leg, and of a sensation as if it were swollen, and bigger than its fellow, particularly if the tumor has been a very large one and has pressed upon

the corresponding side of the pelvis, you may find local evidence of phlebitis, or of infiltration of the cellular tissue below the knee. This condition sometimes develops into a confirmed phlegmasia, and extends to the thigh, from which state it may easily pass on to suppuration, and become very painful and serious. Absolute rest with the affected limb in the horizontal position; hot applications, either wet or dry, as they are most grateful; wrapping the leg in cotton, and internal remedies as for a "milk leg" are the chief indications for treatment. Thrombosis of the vein is possible in such a case, and the prognosis should be guarded.

"Acute mania sometimes follows ovariotomy, especially when both ovaries have been removed. The attack is usually temporary, but it sometimes ends in insanity, and even in death, as in one of my own patients. Keith, Thornton, Tait, Bantock, Bryant and other leading ovariotomists report analagous cases." (*Goodell.*)

Acute mania.

I have never seen a case of insanity following this operation, but, in November, 1882, I made an ovariotomy in the person of a woman who had suffered from a form of mania for many months, and who had been confined in an asylum for the year previous to the operation. She made no resistance, took the anæsthetic at the request of the husband, and was totally indifferent and oblivious to everything. The tumor weighed thirty-four pounds. She made a good recovery, but for some weeks did not fully regain her faculties. Finally her mental condition was restored, she became the mother of a very interesting child, and has remained well and happy ever since.

Pains should always be taken to prevent bed-sores, a precaution which is especially important if the patient is an old one. This result can be obtained by having her changed from one side to the other occasionally, and not allowing her to lie upon the back all the time.

Bed-sores.

THE RESULTS IN OVARIOTOMY.

Up to this date (December, 1887), there is not upon record a well authenticated, radical cure of a true ovarian cyst by any other than surgical means. When this statement is coupled with the fact that those who survive the risks of ovariotomy almost always recover their health to a degree that seldom follows in other very serious operations, we naturally inquire into the rate of its mortality. What proportion of all of those who are operated upon for the removal of these tumors outlive the immediate danger and regain their former health?

The results of this operation have improved immensely within a very few years, and, I believe, for the following reasons:

1. *The change in the rule advising that it be not postponed until the patient is in a desperate strait, where the complications will render her recovery next to impossible.*—A month ago I showed you an ovarian cystoma which I had just removed from a patient of the Drs. Dunn, of Centralia, Ill. The woman was 58 years old, and had carried that tumor for 28 years because her old doctor had told her "never on any account to have it tapped or otherwise interfered with." Twenty-five years ago it was tapped and but once. Afterwards it grew steadily and at the operation weighed 62 pounds. She is now well again, but it is one case in a thousand, for the contingencies multiply very rapidly when such growths exceed three or four years' duration.

It is the age of the tumor and not the age of the patient that subtracts from the chances of recovery after an ovariotomy. Nine of my cases have been above sixty years old, and they all got well. One of them was a double ovariotomy in a patient of Dr. L. W. Jordan, of Bucyrus, O. The largest tumor would have exceeded ninety pounds in weight if she had not been tapped for temporary relief just one week before the operation.

In these old cases there is the double danger of draining the vital fluids into the cyst, and of the condition becoming cumulatively septic through a distillation of the contents of the sac into the blood. My report to the Clinical Society for July, 1886, closed with the following propositions:*

1. That the absorption of a part of the cyst contents prior to the operation is a not infrequent cause of fatality in ovariotomy.
2. That this condition is incident to old tumors, to compound cysts, and to cases that have been tapped.
3. That this insidious, pre-operative form of sepsis is most likely to declare itself through an irritable state of the gastro-alimentary mucous membrane, with repeated attacks of vomiting and purging, and to be confirmed at post-mortem by signs of gastric or enteric ulceration.
4. That, if the patient is predisposed to renal or hepatic disease, the kidneys or the liver may be the seat of serious lesions of function or of structure, which really depend upon this auto-infection.
5. That the cardiac degeneration and involvement which are incident to this form of abdominal growths, as shown by Dr. Fenwick, may be ascribed to a pernicious anæmia that is of septic origin, and which has its source in absorption through and from the disintegrating tissues of the walls and partitions

*The *Clinique*, Vol. VII, page 268.

of the cyst, and not alone in the size and pressure of the sac.

6. That when this septic infection has existed before the operation was made the risk of its continuance and recurrence is very great, and the danger from it is due to the dyscrasia which it had insidiously developed.

7. That these facts present a new and powerful argument for the early performance of ovariotomy, and indirectly explain the increasing exemption from fatal consequences afterward.

Briefly, then, we save more cases since the doctors have quit counselling their patients with ovarian dropsy to wait as long as possible before resorting to ovariotomy for their radical cure, and since the temporizing and harmful expedient of tapping has gone out of fashion. If these old notions had been dropped fifty years ago McDowell's operation would have made a much better record.

2. *The improved technique of the operation itself, of the peritoneal toilet, and of the after-treatment.*—In this and in the preceding lecture we have carefully considered each and all of these points in their proper connection. No ovariotomist, whether he be great or small, old or young, a beginner or a veteran, can afford to disregard the proper and essential prophylaxis of peritoneal surgery, or the conditions upon which this particular kind of work is either expedient or successful.

"Our best English operators—Keith, Thornton, Bantock and others—in the last few years had brought their death-rate down to the marvellously low figure of about ten per cent., more or less, when Lawson Tait's record beats all, by the extraordinary result of one hundred and thirty-nine cases without a death, and a general mortality over several hundreds of cases of less than five per cent. Surely this is the *ne plus ultra*, not only of abdominal surgery, but of all surgery. If it is not a justification for the performance of ovariotomy, wherever an ovarian tumor exists, it is undoubtedly a stern command to all who seek to perform the operation, so as to give their patients the best chance of life, to spare no pains to perfect themselves in every detail of attainable knowledge. (*Greig Smith.*)

In a recently published record of his last series of one hundred cases, Dr. Thomas Keith, of Edinburgh, reports that he had only three deaths to ninety-seven recoveries. These remarkable results, which have not as yet been duplicated in America, did not spring from accident or chance, but from a careful application and adaptation of such rules and precautions as I have now given you. And they show most conclusively that, other things equal, *the measure of success obtained increases in ratio with the special experience of the operator as an ovariotomist.*

LECTURE LXI.

OVARIOTOMY BY ENUCLEATION.

Ovariotomy by enucleation. Miner's method of. Cases that are suitable for. Ludlam's method of enucleating an ovarian cyst. *Case.*—Ovariotomy by partial enucleation. *Vaginal ovariotomy.* Cases adapted to. Mode of operating. A new hint. The after-treatment.

There are other modes of performing ovariotomy which remain to be described and illustrated before we dismiss the subject. One of these is what is called ovariotomy by enucleation, which was first proposed and practised by Prof. J. F. Miner, of Buffalo, N. Y.,* and which has been variously modified for the purpose of adapting it to a wider range of cases. As originally performed this plan consisted in fact, in the separation of the pedicle from its attachment to the tumor in the same way that the adhesions are usually detached, *id est* by a finger-dissection. Following this mode of separation there was no need of torsion, neither of the ligatures, nor yet of the clamp, for the torn vessels soon ceased to bleed, as in the separation of other adhesions. Dr. Miner says:—"Externally the ovarian tumor has a dense firm covering, and the vessels which sustain the growth enter it, if at all, only of capillary size. The attachment of the pedicle to the cyst is much more easily broken than any one would suspect who has not attempted its separation in the manner described. The same efforts which are made to separate the adhesions elsewhere if extended to the pedicle, will be found equally successful. The finger should be introduced under the central portions of the pedicle, fully down upon the cyst, and by a gentle elevation followed out along the fasciculi of vessels as they extend over the walls of the tumor; nothing can be more easy of execution, or more readily accomplished."

Miner's method of enucleation.

The cases to which this method of enucleation is especially applicable are those tumors which have broad and short pedicles that would be difficult of management either by the ligature or the clamp; those ovarian tumors which have no pedicle whatever;

*The American Journal of the Medical Sciences for Oct. 1872, p. 391.

and those cases in which the anterior wall of the cyst is covered by a sub-peritoneal vascular membrane, which makes it impracticable to finish the operation in the usual way, but in which it is expedient to cut through this membrane very carefully, and afterwards to enucleate the tumor. It is also safer and more successful in single than in compound cysts.

Cases that are suitable for.

Some years ago I first practised a method of enucleation, which adds a new resource to the management of cases in which the adhesions are so general and so formidable as otherwise to force one to relinquish the removal of the tumor. This plan, which I had never heard of before, consisted in the separation of the coats of the cyst wall, in removing its lining membrane entire, and in leaving the matrix without disturbing any of the peri-cystic adhesions or visceral attachments. The records of this remarkable case were carefully preserved, and read as follows:

Ludlam's method of enucleation.

Case.— Mrs. H., of this city, aged 22, is the mother of one child, which is two years and eight months old. Five years ago, at the age of seventeen, she began to have a pain in the region of the left hip, and the left side, sometimes extending down the left leg. For some time the side had been weak and the pain not very severe, when she slipped and feel so as to strain the side severely. After this accident she suffered occasional paroxysms and attacks of acute pain, one of which lasted a whole week.

She first observed an enlargement in the left iliac and ovarian region four months after her marriage. This was accompanied by a general bloating of the abdomen, which would subside and at times almost disappear. Then she became pregnant, and towards "term" her size was "enormous." She had a natural labor, and got up well, weaning the child when it was thirteen months old.

In a month after the birth of the child, however, she had a severe attack of peritonitis. Then the tumor grew and filled rapidly. For some months she had local electrical treatments which caused the growth to diminish somewhat in size. During two weeks of this time she took a "treatment" of this kind every day on the doctor's theory that the enlargement was due to dyspepsia, which he told her arose from drinking coffee!

In all she has had fourteen physicians, each of which has given a different diagnosis. One said she had dropsy *and* an ovarian tumor. Another decided that the ascites was so pronounced as to prevent a recognition of the ovarian tumor, if there was one.

A third treated her for about three months for a "fattening of the apron" (omentum?) which "fattening," it was said, "prevented the escape of the wind and so caused the abdomen to become enlarged!"

During the past two years she has had repeated attacks of what, from her description of the symptoms, appears to have been sub-acute peritonitis. These were generally induced by active exercise while on the feet, as for example by ironing, or by standing for a long time while cutting out garments. Not unfrequently these fits of illness would either accompany or follow the menstrual period. The menses had been and continue quite regular. In former years the flow was very free, but of late it is becoming more scanty. The general health is good, the appetite fair, but at times she cannot lie down and sleep, owing to the dyspnœa caused by the mechanical pressure of the tumor against the diaphragm.

The measurements (Aug. 2, 1873), were as follows: The circumference of the body over the umbilicus was 37 inches; from the ensiform cartilage to the pubes, 14½ inches; from the ensiform cartilage to the umbilicus, 8 inches; from the umbilicus to the pubes, 6½ inches; from the anterior superior spinous process of one ilium to the other, 14½ inches; from the right anterior superior spinous process obliquely to the point of left floating rib, 19½ inches; and from the left ditto to the point of the last floating rib on the right side, 16½ inches; depth of the uterus, 2¾ inches.

The operation was made at the patient's residence, at 12:30 P. M., on Tuesday, October 14th, 1873, ten days after the cessation of the last menstrual period. There were present Drs. W. Danforth, C. N. Dorion, and R. K. Paine, of the Hahnemann Hospital, and Messrs. C. D. Stanhope, H. W. Roberts and G. R. Parsons, of the college class. Dr. Paine administered the ether, and my colleague, Dr. Dorion, was my chief assistant. Although none of us had ever witnessed the removal of an ovarian tumor by any form of enucleation, I had previously determined upon this mode of procedure, more especially because it was evident that the cyst was bound on all sides by adhesions, resulting from the frequent and severe attacks of peritonitis to which my patient had been subject.

I made the incision, as usual, along the linea alba. At first it was only four inches in length, but it was afterwards enlarged to five inches. There was but little hæmorrhage. Anteriorly the adhesions were so intimate and firm that it was only by the escape

of the abdominal fluid at the lower end of the incision, and the application of Atlee's test that we were certain that the peritoneal cavity had been opened. The sound was passed beneath the umbilicus, but would not glide over the anterior surface of the tumor at all. A slight separation of the adhesions was attempted on each side of the incision, sufficient to prove that they were very compact and very vascular. This fact was so obvious that all the physicians present expressed themselves as satisfied that the operation must be abandoned, or the patient's life would be put in great peril by completing it after the old method. And this state of things caused me to renew my resolution to test the expedient of enucleation.

At a glance it was evident, however, that the mode of performing this operation as first recommended and practised by Prof. Miner, was impracticable. The tumor could not be turned out upon the abdomen, and the adhesions were in the way of getting at the pedicle. Therefore, in order to separate the cyst, we could not begin "under the central portion of the pedicle," but had to content ourselves with first detaching it at a point opposite the abdominal incision.

Now this, as you may suppose, was a very delicate matter. The peritoneal layer being very thin, and the cyst-wall likewise, the greatest care had to be exercised in beginning and in completing their dissection and detachment. A very slight incision was first made, and then the handle of the scalpel was used to carry on the separation until it was sufficiently extended to allow of the fingers being employed in the same way. It was only with extreme care and patience that this part of the operation was performed, for the cyst required to be separated in this manner throughout its whole circumference. Indeed it took Dr. Dorion and myself nearly three-fourths of an hour to accomplish this object. And during all this time we exercised the precaution not to lift or to disturb the matrix of the tumor, lest we might rupture some delicate adhesions on its posterior surface, and thereby cause a concealed internal hæmorrhage.

The diagram on the black-board will give you a pretty correct idea of the pathological anatomy of the tumor, and also of the relative position of the tissues which were separated during the operation.

Having finally removed the cyst, we were prepared to appreciate Dr. Miner's remark:

"No surgeon in the world was ever more surprised at what he had done than myself, when I found that I had removed a large ovarian tumor without ligating a single vessel, and without any hæmorrhage worthy of notice."

Here we had taken out this large sac without having applied a ligature, or resorted to torsion, or anything of the kind; and what was equally remarkable, without having seen the intestines, the uterus, the opposite ovary, or even the pedicle! It really seemed as if some important step in the operation had been omitted.

But it only remained to clean the hull of the bloody serum which had oozed from the capillaries. After waiting a quarter of an hour, in order to be certain that hæmorrage would not set in, the abdominal incision was closed with silver sutures in the usual way. The cut was dressed with a compress moistened with a mixture consisting of the tincture of calendula, glycerine and warm water, in equal parts. The whole was secured with adhesive straps and a binder, and the patient put to bed again. The entire operation lasted two hours. The cyst and its contents were estimated to weigh thirty pounds.

She rallied well, and the anæsthesia passed without any ill effects. She vomited but once. Aconite 2 and atropine 3 were given at intervals of an hour. At 7 P. M. she slept quietly, but at bed-time was harassed with a nervous cough, which was relieved by ignatia 3 and by taking half-teaspoonful doses of pure glycerine occasionally.

The aconite was continued until the fourth day, when the menses appeared. At 3 P. M. she had quite a severe chill, with dyspnœa, which continued for half an hour. Re-action was induced by friction, the application of dry heat, and by the internal use of stimulants. The usual precautions were taken each day thereafter to prevent the recurrence of the chill, and with success, but the dyspnœa came at 4 P. M. every day for a week.

On the fifth day she took mercurius sol. 3 and bryonia alb. 3 every two hours alternately for the white pasty tongue and the cough. In the afternoon two of the deep sutures were removed, and she was turned upon her side for the first time.

On the sixth day, from 7 to 10 P. M. she was very restless, and was troubled with a nervous cough, for which she took spongia

instead of bryonia, with arsenicum alb. 3. She had also a free warm perspiration for the first time at 8 P. M.

At 3 A. M. of the seventh day she had a slight epistaxis, which continued for ten minutes. The blood lost was of a very dark color. At 4 P. M. she had a violent desire to urinate, but, although the quality of the urine was unchanged, the quantity was very small. The evident exacerbation of the symptoms at early evening, and the continued high range of the temperature, led us to prescribe quinine, which was given for several days, at the rate of three grains per diem. The remaining sutures were removed.

On the ninth day, at 5:25, A. M., she had a return of the nose-bleed as before. The bowels were moved by an enema, and her clothing was changed. There was also slight abdominal tympanitis, for which belladonna and arsenicum were prescribed. In the afternoon, while she was lying for a short time upon her left side, a copious discharge of a thin, brown, serous fluid took place from the openings left by the sutures.

The tenth day was characterized by greatly increased difficulty of breathing after 3 P. M., the number of respirations being thirty-six to the minute; and by the temperature reaching 105° in the vagina at 9 P. M. In order to be certain that there had been no mistake in the latter regard, the thermometer was passed into the urethra, and the result was the same.

The next day the breathing indicated thirty-two respirations to the minute, and the pulse and temperature had also fallen.

When the wound was dressed on the twelfth day, there had been a free discharge of a thick, brownish, inoffensive and gelatinous fluid from the lower extremity of the incision, and a healthy yellow pus from the openings of the sutures.

On the fourteenth day, the purulent discharge being still copious, silicea 3 was given. The menstrual flow ceased at this date, and the urine was passed for the first time voluntarily.

The day after, the bowels moved.

From this date the patient gradually improved. She slept and ate very well, was in good spirits, and sat up the first time for about fifteen minutes on the twenty-third day. The pulse and the range of temperature were taken and carefully recorded each morning and evening for three weeks subsequent to the operation.

The free formation and discharge of pus in this case suggests the propriety of securing its drainage from the lower extremity of the incision in all cases of enucleation especially. This may be done by keeping the lower part of the wound from uniting, either by the introduction of a sponge tent, or ot a silk thread, a silver wire, or

Necessity for drainage.

even of a gum elastic drain-tube, or of a catheter. The objection to the drain-tube, however, would be that, by lying in direct contact with the interior of the shrunken sac, its presence would be likely to increase and to prolong the suppurative process.

TABLE OF THE TEMPERATURE AND THE PULSE.

DAY.	FIRST.		SECOND.		THIRD.		FOURTH.		FIFTH.	
	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
Pulse.....	.. ..	120	120	120	100	106	104	108	108	108
Temp'r'ture	.. ..	103	102	103	101 3-5	102	101	103	101 3-5	101 3-5
DAY.	SIXTH.		SEVENTH.		EIGHTH.		NINTH.		TENTH.	
	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
Pulse.....	106	112	104	112	106	110	106	100	108	108
Temp'r'ture	102 1-5	104	101 4-5	104 1-5	102 2-5	103 2-5	101 3-5	103 1-5	103	104 1-5
DAY.	ELEVENTH.		TWELFTH.		THIRTEENTH.		FOURTEENTH.		FIFTEENTH.	
	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
Pulse.....	100	104	98	100	98	90	96	98	94	100
Temp'r'ture	101 4-5	103 3-5	101 3-5	103 2-5	101 4-5	100	101	102	99 4-5	103 3-5
DAY.	SIXTEENTH.		SEVENTEENTH		EIGHTEENTH.		NINETEENTH.		TWENTIETH.	
	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.	A. M.	P. M.
Pulse.....	92	100	92	100	88	84	86	90	.. ..	90
Temp'r'ture	100	103 2-5	101	103	100 1-5	100 1-5	99 3-5	101 2-5	99 1-5	102

In reviewing this case, I am satisfied that this modification of Dr. Miner's operation is an invaluable one. Especially is this true where the nature and the extent of the parietal and visceral adhesions render it unsafe and impracticable to remove an ovarian cyst by the more ordinary method. I do not suppose that this plan is suited to all cases of unilocular cysts indiscriminately; but, in this particular instance, it is evident that my patient owes her life to it and to the careful after-treatment and nursing which she received. Seven years have now passed (Dec. 1880), and this patient has had no return of her old trouble, nor any abdominal or pelvic sequelæ of any kind.

OVARIOTOMY BY PARTIAL ENUCLEATION.

There is another mode of extirpating an ovarian tumor, which consists in its partial enucleation, by splitting the cyst-wall so as to avoid a rupture of its external adhesions. You can readily understand that this method, unlike the one just described, is applicable to compound as well as to single cysts.

What are called parietal adhesions, or those which fasten the tumor to the abdominal walls, can be stripped off carefully by a finger-dissection; or, if they are stringy, firm and vascular, can be ligated and cut, as already directed. But the visceral attachments

of the tumor to the intestines, the liver, the uterus and the bladder, and the pelvic adhesions that sometimes anchor it in the Douglas pouch, and to the rectum, must be disposed of by some other method. The latter represent the class of cases in which, only a few years ago, the operation of ovariotomy was relinquished as soon as they were found to exist, and the incision was closed without any further attempt at the removal of the tumor. But now, instead of turning these grave cases away to die, we make a delicate dissection of the coats of the sac, go within its vascular shell without rupturing its vessels, take away its lining or secreting membrane and give them a chance to recover. I certainly have saved the lives of five women in this way.

The difference between this mode of enucleating the cyst and that of which I spoke at the beginning of my lecture, is that in this case only so much of the sac as is adherent is separated by the splitting process. Beyond the margin of the visceral adhesions the cyst wall is cut through and removed in the usual way. By this means we leave the patch of adhesion, no matter how large or small it may be, just as it was before the operation, excepting that we have denuded it of its lining membrane.

This method of operating is not new, but has been performed in various ways, and sometimes unwittingly, during the last few years. It certainly has great advantages over the expedient of cutting away the sac, leaving so much of it as was held by the visceral adhesions to be drawn forward and stitched into the lower angle of the wound without stripping the patch of its secreting membrane. The record of one of my most serious cases, one in which I successfully removed a tumor weighing eighty pounds, will prove its value when other modes are not available.

Case—Mrs. A., aged forty-five years, ceased to menstruate two years ago. Formerly a citizen of Illinois, she moved to Montana in the spring of 1871, where she has lived up to the present time. Ten years ago she first noticed a swelling in the right inguinal region. Its growth was much more rapid the three years preceding than the three following her arrival at the west. Her health was very much improved by the journey to Montana, but the swelling did not disappear. During the past four years the growth of the tumor has been much more rapid.

For some time before and after her removal the menses returned every two weeks. They were not excessive, but were slightly

painful. She has a son sixteen years old, but the tumor is in no way connected with his birth. She has never had a miscarriage, nor as far as she can remember, a fall or a strain.

Five months ago she was desperately ill, and almost died from protracted vomiting, which continued for five weeks, but with no diminution in the size of the tumor. When this disorder had ceased, a dropsy of the lower extremities commenced, and the calf of the leg finally measured sixteen inches in circumference. This effusion extended upwards along the thighs, sides, abdomen and back, and was present when she left home for Chicago, Dec. 27th, 1877.

Previous to her departure from home, she had not been out of the house five minutes at one time in four months. The first four hundred miles of the journey were traveled in a farmer's wagon, over the principal range of the Rocky Mountains. The remaining fourteen hundred were traveled on the railroad. The whole journey of eighteen hundred miles occupied two weeks. The patient bore the trip remarkably well, and even improved on the way.

My first physical examination of the case was made on Jan. 17th 1878, at the residence of her sister in Elgin, forty miles from Chicago, and the following conditions were found to be present: The uterus was normal in size, with left lateral version, the cervix was retracted, the os high up on a line with the symphysis pubis. There was no pouching or fluctuation in either cul-de-sac. I found a flatness on percussion all over the abdomen in front, the tumor lying chiefly to the right of the median line. The outline of the cyst was distinctly made out, on the right side especially. On the left there was dullness far back into the lumbar region. The wave-line and impulse were both very distinct. There was no history of peritonitis in the case, whether puerperal or otherwise. The sample of the fluid drawn by aspiration, was of a dark claret color, and quite thick.

The operation was set for Thursday, Jan. 31st, 1878, but on account of a severe snow storm was deferred until Feb. 2d, 1878, when it was made at Elgin, Ill., in the presence and with the assistance of Drs. A. L. Clark, H. K. Whitford, C. A. Jeager, D. E. Burlingame, C. E. Stone, and Messrs. J. W. Hutchinson and W. A. Barker, medical students.

The operation was begun at two o'clock P. M., and lasted two and one-half hours. On account of venous hæmorrhage the abdominal incision was made slowly and very carefully. The adhesions between the abdominal and cyst-walls, anteriorly, were so intimate that it was impossible to separate them, and the cyst was unavoidably punctured. After the sac was evacuated, and it was proved that an attempt to detach it in front would, of necessity sacrifice the life of the patient, (on account of the extent and vascularity

of the parietal adhesions,) the sac was laid open for the space of two inches, and it was determined to resort to enucleation.

When more than one-third of the lining membrane of the sac had been carefully split or separated, (consuming more than an hour,) the outer wall was torn through and the remainder of the sac, which was not adherent, except to a strip of the omentum and also to the rectum, was brought forward and exposed to view, as in ordinary cases.

The pedicle, which was six inches broad and very vascular, was tied in three places, with carbolized cat-gut ligatures, but on account of venous exudation, and the fear of hæmorrhage afterwards, it was brought forward and secured by a Thomas' clamp. The wound was closed with silver wire sutures, and the incision covered with a compress wet in a mixture of calendula, glycerine and warm water. Adhesive straps were applied across the abdomen to prevent any possible strain from vomiting. She was put to bed carefully, and reacted slowly but surely.

The fluid contained in the cyst weighed seventy-four pounds and the sac itself six, making a total of *eighty pounds*. The fluid was of a very dark chocolate color, slightly acrid, and apparently on the verge of decomposition, having changed very materially since the previous examination. There was no vomiting until the twenty-third day. For the first twenty-four hours, the remedies were aconite and arnica in the second dilution. These were followed by verat. vir. $\bar{2}$ at longer intervals, until there were signs of suppuration, and the temperature fell to 97½°, which was on the morning of the seventh day. On the evening of the sixth day, the bowels moved spontaneously, and for some hours she had a copious and very offensive diarrhœa, for which she took ars. alb. 3. For the debility that followed, and which continued for a few days only, grain doses of the sulphate of quinine were given. A slight irritability of the bladder at the twelfth day, was relieved by drinking gum-arabic-water. There was a free, but not a copious discharge of pus from the wound after the seventh day, at which time a few drops of carbolic acid were added to the solution of calendula and glycerine with which the wound has been dressed from the first. The clamp did not fall until the twenty-seventh day, when the incision was found to have closed perfectly. The urine was drawn every three hours, until the close of the seventh day, when it was passed naturally. The record of the temperature and the pulse was taken every morning and evening for four weeks.

The patient was not free from symptoms of peritonitis until the close of the eleventh day. She had a good diet, and the window in the next room was kept open most of the time, although the air was frosty. For four days after the operation, however, the temperature of the chamber was not below 70°.

This patient made a perfect recovery, and in due time returned to Montana in better health than she had enjoyed for many years.

I have never before observed so intimate and so extensive a union between the abdominal wall and the cyst-wall, as in this case. Their surfaces were, indeed, so closely adherent as to defy separation, at least without the greatest danger to the patient. And I am satisfied that but for the expedient already described we should have been forced to relinquish the operation for the removal of this enormous tumor.

The fact is, that when the parietal adhesions rendered its separation impracticable, the only way out of the difficulty was to split the coats of the sac, and to take advantage of the feeble vascularity of the cyst-wall within its external tunic. This was a delicate and tedious process, and the stripping of the first from the second layer, (which the clever old nurse compared to the "skinning of a squirrel"), had to be done very carefully. When we had finally reached the limit of the adhesions on the anterior surface of the tumor, covering about one-third of the sac, a farther dissection was unnecessary. The outer layer was now broken through all around, and the operation finished in the usual way. To avoid a recurrent hæmorrhage the fasciculus of omentum was ligated twice and cut between, as in tying the funis after delivery. It is evident that the absence of a pre-existing history of peritonitis is not always to be depended upon as a sign that an ovarian cyst is non-adherent. This is especially true in case the tumor is very large, where the pressure is very great and the motion is prevented.

VAGINAL OVARIOTOMY.

The removal of an ovarian cyst by way of the vagina, or vaginal ovariotomy, was first practised by Dr. T. G. Thomas, of New York, in February, 1870.* Prior to that time these cysts had occasionally been tapped and drained through the floor of the Douglas pouch, but the frequent occurrence of septic infection and puriform degeneration of the contained fluid with fatal results had caused the practise to be abandoned.

The class of cases to which this mode of operating is especially adapted is not a large one, and for many reasons it is not likely to become very popular with the profession. It includes those cysts

*The American Journal of the Medical Sciences, April, 1870.

which are neither very old nor very large, which are retro-uterine and pelvic in their location, and are therefore accessible through the posterior cul-de-sac. Cysts from the size of an orange to that of the head of a child which is a year old, that lie in the Douglas pouch, and which are moveable, are best suited to this mode of extirpation; but it also has been successfully applied to dermoid cysts that were small and very adherent. Goodell removed a compound cyst in this way, and although his patient was desperately ill, she finally recovered.

Cases to which it is adapted.

Dr. Thomas speaks of the kind of cases to which this operation is suited, as follows:

"It is not my belief that the scope of this plan of performing ovariotomy will ever be very great; but I think that in cysts of small size, which are unattached, it will offer a valuable resource for the avoidance of years of mental suffering while the disease is progressing, and of the capital operation of abdominal ovariotomy in the end, with all its attendant dangers and uncertainties. Even in a doubtful case, vaginal ovariotomy may be resorted to as a tentative measure, which, in the event of failure from attachment of the cyst, would in all probability be recovered from. * * * * * I feel sure that it has before it a future of usefulness for the following reasons: It is fully as easy of performance as abdominal ovariotomy; is evidently attended by much less danger; holds out to the patient the opportunity of avoiding many weary months of suspense in anticipation of that more grave procedure; is equally applicable to multilocular and to unilocular cysts; and gives abundant facility for securing the pedicle."

The best mode of performing this operation is to place the patient in the dorsal decubitus, just as if you were going to make a perineorrhaphy. Then, the vagina having been thoroughly cleansed antiseptically, the perineum and the posterior wall of that passage are retracted with a Sims' speculum. The uterine cervix is drawn down and afterwards held out of the way, so as to put the fornix on the stretch. Now you are to make a button-hole opening through the roof of the cul-de-sac in the direction of a line running from the rectum towards the neck of the womb. On pulling down the fornix with a tenaculum, this can be done with a Küchenmeister's scissors, or with a Pacquelin's thermo-cautery. In either case, if the tumor lies behind the uterus there will be little risk of injuring a stray coil of intestine; but you should be careful not to rup-

Mode of operating.

ture the cyst, or cysts, before you are ready to empty them with the aspirator, or with the simple trocar.

The adhesions, if there are any, can then be carefully separated and ligated if necessary, with fine silk and catgut. Finally the pedicle may be pierced with a Skene's needle, a double ligature tied tightly about it, and the tumor afterwards cut away. The ligatures should be cut off short before the pedicle is returned to the pelvic cavity, and if the intestine has slipped through the opening it should be carefully replaced.

By most operators it has been thought necessary to stitch up the incision thus made in the vaginal roof; but it is better to leave it open for drainage, and afterwards to secure immunity from the admission of air into the abdominal cavity by packing the vagina with two or more soft and clean iodoform sponges.

This latter item is a part of the practical lesson that we have learned from the recent improvement in vaginal hysterectomy. Indeed, the expedient of ligating the pedicle might also be dispensed with by applying a Péan's long forceps and leaving them in position for twenty-four hours or more. Meanwhile the drainage would be perfect and hæmorrhage would be impossible. This simple expedient might also be extended to the removal of various other tumors per vaginam.

A new hint.

The after-treatment is very simple, but should not be neglected. The same precautions should be taken against vomiting, flatulency, tympanites, and obstruction of the bowels as were advised in the last lecture after an abdominal ovariotomy. The sponges should be allowed to remain until the forceps are removed (in case they have been used), or until there is evidence of a free discharge of bloody serum, which will usually be on the second day. The vagina should then be cleansed by an injection of clear water at a temperature of 102°, after which fresh and clean iodoform sponges should again be applied. The necessity for repeating this dressing will vary in different cases; but it can not safely be dispensed with until the peritoneal discharge has entirely ceased.

The after-treatment

LECTURE LXII.

DISEASES OF THE UTERINE APPENDAGES.

The class of women who are subject to; from imperfect development; from obstructive dysmenorrhœa; do. puerperal affections; do. gonorrhœal infection; do. membranous dysmenorrhœa; tubal and ovarian tuberculosis; in scrofulous subjects: forms of ovarian degeneration; varieties of salpingitis; often confounded with kindred affections; the diagnosis of; Fallopian colic; *case;* the subjective symptoms; the objective do.; the physical signs; confusing elements of diagnosis; Battey's and Tait's operations for.

Under this head we shall speak of those diseases of the ovaries and of the Fallopian tubes which from necessity can not always have a separate clinical history. They include cystic and atrophic degeneration and sclerosis of the ovaries, and salpingitis, or inflammation of the oviducts.

These organs lie in such close proximity and are so intimately concerned in the function of menstruation that their lesions are largely responsible for its most obstinate disorders. The classes of women who suffer most therefrom include those who are young and unmarried; such as have suffered from the diseases of child-bed; and married women who have remained sterile.

Classes of women who are most subject to.

It is only too common to find a class of subjects in young girls at puberty, who, having reached the age at which the monthly flow should be established, are so immature and so imperfectly developed that nature can not assert herself. She struggles to effect the discharge and to furnish the physiological sign of womanhood, but either the function goes by default, or it is not properly performed, and an untold amount of suffering is the consequence. The different phases of anæmia and chlorosis, dyspepsia, and the neurotic disorders, such as hysteria and hystero-epilepsy, are, in these later days, clearly traceable in many cases to tubal or ovarian disease which has its root in the unsanitary habits and surroundings of the school-girl.

From imperfect development.

I am persuaded, however, that in the case of girls and unmarried women salpingitis is more often the consequence than the first cause of painful menstruation. For it may be due to obstructions to the flow that have originated in the uterine cervix. An acute flexion of the womb, or a spasmodic constriction of its neck, from

From acute dysmenorrhœa.

some local or reflex cause, may involve its lining membrane as well as that of the tube in such tissue changes as will not pass away with the close of the monthly period. And, through the want of a ready egress, the arrest or the reflux of blood in the tube may easily excite the peristaltic contraction of its muscular walls and cause it to become very much distended and painful. And thus, beginning with a partial occlusion of the os-uteri, a secondary affection, which increases the suffering and complicates the case, is finally developed. In former times I certainly have cured some of these cases of post-dysmenorrhœal salpingitis unwittingly by first addressing my remedies to the relief of the painful menstruation, or to a coincident pelvi-peritonitis, or by repositing the uterus before the flow and keeping it in position afterwards.

From puerperal affections.

The puerperal affections upon which the diseases of the uterine appendages are most often secondary are endometritis and peritonitis. When the lying-in woman is ill with the former affection the inflammation is very prone to extend by continuity of texture until it reaches the ovary. And the distillation of the vitiated fluids which are sometimes carried from the uterus in septic and catarrhal endometritis following labor or abortion may be the cause of a long-lasting mischief in the tubes themselves. A large share of cases of chronic salpingitis and ovaritis with localized peritonitis of a relapsing character, as well as pelvic abscess, are due to this cause. When this condition is consecutive upon puerperal peritonitis, the trouble begins at the outer extremity of the tube and travels from the ovary through this part of the generative intestine toward the uterine cavity.

As a sequel of gonorrhœal infection.

Without accepting the life-long theory of Noeggerath, which holds that those women who have once been the victims of a gonorrhœal infection will never fully recover from it, we may and must concede that when the disease has invaded the organs of which I am speaking, the woman will become either transiently or permanently sterile. Like epididymitis in the male, this specific form of salpingitis is a secondary affection which may or may not involve the ovary; and therefore this tubal blenorrhagia is a frequent cause of amenorrhœa as well as of barrenness.

The wives of such husbands as have been unchaste in their youth, and of men of immoral habits who are much of their time away from home, are very likely to suffer the evil consequences of an infection of which they are the unconscious victims. Even when these unfortunate women are neither sterile nor given to

abortion, they suffer from the various forms of peri-uterine inflammation that are symptomatic of salpingitis and oöphoritis.

In membraneous dysmenorrhœa the early obstruction to the flow, and the prolonged effort to discharge the contents of the uterus sometimes results in hyperæmia, and hæmorrhage and inflammation within the tube. This condition not unfrequently determines a moderate and transient hæmatocele. In such a case, especially if the moulting of the menstrual decidua depends upon syphilis, or upon a repercussed eruption, the exfoliation may extend to the lining membrane of the tube. Meanwhile the uterine contractions are shared by the fibrous coat of the tube, and the incidental suffering and danger are very much increased.

From membranous dysmenorrhœa.

Genital phthisis is often a cause of inflammation and obstruction of the Fallopian tubes. I have already spoken of the comparative frequency of the tubercular deposit within the pelvis. Its most common seat is in the peritoneum, and after that in the Fallopian tubes. Circumstances will determine whether this lesion of the tubes develops early or late in the menstrual life. If the first signs of phthisis are thoracic, the tubular involvement of the generative intestine may be deferred until after the period of child-bearing, or until the climacteric. But, in one who is predisposed to phthisis, if the lungs escape at puberty and the establishment of the menstrual function is delayed, or difficult, or if it goes by default, the chances of tubal tuberculosis with its accompanying salpingitis are very much increased. Whenever it occurs the deposit may be located within the tube so as to obstruct its calibre, or in its wall, or outside of it altogether. The result is that some form of salpingitis, with an impairment of the menstrual function (to which the tubes as well as the ovaries must contribute), is pretty certain to follow. "The tubes are always involved in tuberculosis of the genitals, and in about one-half of all cases they alone are affected. Beginning in this structure, the ravages of tuberculosis are greatest; the specimens in our possession show that the disease develops and is most severe at the outer extremity."—(*Winckel.*)

Tubal and ovarian tuberculosis.

Akin to this form of diseased appendages is that which sometimes occurs in scrofulous subjects, in whom the ovaries, as well as other glandular structures, are likely to be involved. These patients are pretty certain to have chronic uterine leucorrhœa, with periodical discharges of a catarrhal kind that evidently come from the Fallopian tubes. Not unfrequently this catarrhal flow substitutes the menstrual

In scrofulous subjects.

discharge; and whenever you find a case of vicarious leucorrhœa you may conclude that in all probability the tubes are in a state of chronic catarrhal and purulent inflammation. This tubal catarrh is about as common in scrofulous women as the similar condition of the Eustachian tube, and which, *en passant*, is literally another form of salpingitis.

Forms of ovarian degeneration.

Having considered the etiology of these affections, we must speak of their variety and peculiarities. The ovary is liable to undergo a species of degeneration that is called cystic, but which should not be confounded with the development of the Graäfian follicles constituting the ordinary ovarian tumors, or ovarian dropsy. The lesion in this case is one in which the cysts remain small, are thickened and very much condensed. Their walls often become hard and almost cartilaginous, while the parenchymatous structure of the organ becomes indurated and cicatricial in character. This sclerotic ovary is almost always accompanied by amenorrhœa and sterility, and for the simple reason that it usually affects both ovaries at the same time. Atrophy of the ovary may be partial or complete, and either results in a suspension of the catamenial function, as at the menopause, or in great suffering with the return of the monthly period.

The varieties of salpingitis.

The varieties of salpingitis are chiefly interesting because the contents of the tumor, when there is one, and of the discharge in either case, are not always the same. So far as we are able to judge there is no practical clinical distinction between them when examined at the bedside, and before they have been removed by an operation. In the majority of cases it happens that the extremities of the affected tube are closed in consequence of infiltration or of atresia, and an accumulation of some kind takes place within it. This will distend the organ throughout, or in sections, so that it may take the form of a sausage, and if it is very large it may be mistaken for other forms of pelvic tumor.

The various kinds of tubal tumors are classified according to their contents. If there is a simple, serous, or dropsical accumulation, the case is one of *hydro-salpinx*. If it contains pus, we call it *pyo-salpinx;* or if it is filled with blood, we have *hæmato-salpinx*. There is an accidental variety in which the tumor is formed by the accumulation of air that has been forced into the tube while giving an intra-uterine injection, which is called *physo-salpinx*. It almost always happens that these tumors by retention, as they have been very properly styled, are bi-lateral. In exceptional cases, however, one tube may have discharged itself

occasionally, or perhaps periodically, while the other has developed a tumor. For this reason the disease is scmetimes thought to to be unilateral when it is not really so.

A peculiar interest attaches to those cases of salpingitis in which there is a kind of intermittent overflow of the tubal contents through the uterus. They are often mistaken for ovarian and pelvic abscesses, which in fact are seldom if ever relieved in this way. Sometimes the pent up secretion finds vent and because the flow is hæmorrhagic, the trouble is charged to the uterus when the lesion is wholly outside of it. In other cases a copious discharge of water per vaginam, and the subsidence of the tumor which before had been plainly felt, is taken as evidence of the evacuation, and possibly of the cure of an ovarian cyst. It has often happened that the gradual escape of these fluids by a sort of decanting process has given relief to symptoms that were supposed to be due to a limited, or relapsing peritonitis with more or less effusion. It remains to be seen whether, as Wylie and others believe, a better knowledge of the diseases of the uterine appendages, and of their clinical history, will show that other forms of peri-uterine inflammation are of minor importance.

May be confounded with kindred affections.

In the case of women who are large and stout, with a great deal of adipose in the abdominal integument, the diagnosis is very difficult and must chiefly be made out from the subjective symptoms. For in their case there is no such development, distention and attenuation of the abdominal parietes as facilitates bi-manual manipulation in ovarian cysts and uterine myomata. Whether as a cause or a consequence relapsing peritonitis is always a contingent affection. The "burning" pains which are referred to the region of the ovary either during or after the menstrual period; the prolonged struggle to start the flow in some cases when it is overdue; the occurrence of "menstrual colic" from sudden cold, from getting the feet wet, or from drinking or eating something that causes a chill while the discharge continues, or from forcible and excessive coitus, indicates more or less of inflammatory action in the tubes. This Fallopian colic, as I have called it in my clinic, is often marked by the most atrocious pain and suffering, while it may be followed by spasms, epileptoid conditions, hysteria, delirium, and the lighter forms of insanity. It is conceded, I think, that those cases which are complicated with cystic degeneration of the ovaries are most prone to hystero- or, more properly, oöphoro-epilepsy.

The diagnosis.

This menstrual or tubal colic, which is neither uterine nor

intestinal, is almost always accompanied by a tympanitic distention of the abdomen, and by a decided intolerance of the sudden jarring of the body. Those who have had it once are very likely to have it again. When it recurs at the month it usually precedes the flow and is relieved by it; but now and then we find a case in which it comes in from three to five days after the discharge has ceased, or at a period that corresponds with the extrusion of the ovum. I was recently consulted in a very remarkable instance of this kind in which this symptom was, and had for a long time been pronounced.

Fallopian colic.

The diagnosis is sometimes obscured by a retro-displacement of the womb with an incidental twisting of the tubes. This complication is not so rare as it is troublesome and difficult of recognition and of relief. Not unfrequently one of the ovaries has drifted backwards into the Douglas pouch, where it may become anchored by peritoneal adhesions. In other cases the ovary drops into that pocket and remains there temporarily, giving rise to morbid symptoms which disappear only when the dislocation is relieved. In the patient whose right ovary and tube I removed in the presence of the sub-classes 6 and 7 ten days ago (Nov. 21, 1887), and who is almost well again, there was a hernia of the ovary into the retro-uterine pouch which sometimes could readily be distinguished and at other times could not be found. The remarkable fact about her case was that her ill health dated from a strain in carrying a bucket of coal up the stairs. Before she reached the landing she "felt something give way," after which she fell in an insensible condition. That was four years ago, since which time she has been subject to fits that border very close upon epilepsy, but which have been almost wholly confined to the menstrual period. The only exception to this rule of their recurrence was when, through fatigue or too long standing, she felt something fall and press low down in the pelvis in front of the sacrum. Whenever that sensation came it acted like the *aura epileptica*, and she never failed to have the fit. Whether the operation will result in a radical cure of this unfortunate condition is doubtful, but, as Prof. Fellows has suggested, it may at least put her in a position to be relieved by internal remedies that hitherto have been ineffectual.

Case.

The subjective symptoms that are most significant are more or less constant pain in the ovarian region, with inability to stand, to walk, or to work; nausea, which in some cases is continuous, but which in others recurs with the relapse of the local peritonitis; palor, indigestion,

The subjective symptoms.

anorexia, emaciation, discoloration of the conjunctivæ, obstinate constipation, abdominal tenderness with hysterical manifestations, dyspareunia and sacralgia; pain behind or about the uterus, more or less menorrhagia, and a profuse intermittent leucorrhœal discharge, with increased flow and suffering at the month. These symptoms are not all present in every case, but, with those which have already been mentioned are seldom altogether absent. In hæmatosalpinx there may have been a continuous uterine hæmorrhage which has lasted for years, and which has defied the usual methods of treatment. In pyosalpinx the tube may become so distended with the gradual accumulation as to discharge a pint or more of pus periodically; and the overflow from hydrosalpinx has sometimes been mistaken for hydrometra. In one of Tait's cases there was an extreme dryness of the middle third of the tongue, as in typhoid fever. Some of these patients complain of a peculiar pain at stool, which causes nausea and faintness. One woman said that when she awoke in the morning her ovaries awoke soon after; and another said the ovary felt as a biscuit might feel when a fork was stuck through it!

But these symptoms are not very distinctive or satisfactory. They must be confirmed by a careful bi-manual examination. If the abdominal parietes are thin, and the tumor pretty well developed, its size and location, its point of attachment, mobility and texture can be pretty clearly distinguished. But the difficulty and sometimes the impossibility of making an accurate diagnosis by any kind of physical examination is quite pronounced. Such patients are so nervous and apprehensive, and the sensations elicited are so misleading and deceptive that it is better to give them an anæsthetic before making such an examination.

The objective symptoms.

The signs elicited vary greatly. Sometimes one lateral cul-de-sac is free and the other is not; the uterus is more or less enlarged, retroflexed, with limited mobility; the outline of the tumor, if there is one, is irregular, sometimes fluctuating, again firm to the touch, partially fixed, and likely to be matted with a mass of peritoneal adhesions. The cyst-wall is occasionally so thin and flaccid as to escape detection by the bi-manual touch; and in very rare cases not only the bladder, but the corresponding ureter also may be involved to the extent of inducing an ascending uretero-pyelitis. In case of emaciation involving the abdominal parietes the corded, sacculated or dilated oviduct can sometimes be plainly felt lying at right angles to the uterus, but this is exceptional. Since a share of these tumors have been caused by some local injury physical

The physical signs.

exploration is more readily directed to the seat of the lesion; and we must not forget that these tubo-ovarian formations are sometimes developed in a latent and unsuspected way like cold abscesses.

Confusing elements of diagnosis.

A serious drawback to a clear and satisfactory diagnosis almost always exists in the impossibility of obtaining a correct idea of the early history of the case in hand. If the lesion dates from child-birth, there is not one patient in a thousand who can give us any definite information concerning the affection from which she suffered during her lying-in. We know that the tubes may become the seat of inflammation by an extension of the disease from the cavity of the puerperal uterus (metro-salpingitis), and that it rarely, if ever, happens that the disease encroaches upon those tubes from the peritoneal side; but this knowledge is far from being definite. If the mischief is the sequel of abortion the causative details are not always available; and, if it is from gonorrhœal infection, the poor victim either does not know it, or she will refuse to testify to all the facts in the case. Tait cites a case in which a woman refused for six years to confess that she had had an attack of acute gonorrhœa which she contracted from her husband.

Explorative laparotomy.

In doubtful cases the exploratory incision is the final appeal. I have already (Lecture LVIII.) given you detailed instructions as to the value of the abdominal section as a diagnostic resource. You have seen it made in my clinic, and you therefore know that it is too serious a measure to be lightly regarded, or practised without the utmost care and precaution. Prof. Wylie says: "The operation for the removal of the appendages should be done only in very extreme bed-ridden cases, after a prolonged and careful trial of other means of cure by more than one doctor." I would place the same restrictions upon a resort to laparotomy in order to settle the diagnosis. Otherwise we might be tempted to open the peritoneum for the cure of dysmenorrhœa, or sterility, when the surgical treatment of spasm, flexure, or stenosis of the uterine cervix is all that is necessary to cure the case; or, Emmet's operation might dispose of a lesion that was responsible for all the symptoms, whether local or reflex. In such cases it would be wrong and unwarrantable to take the risk of abdominal section when the lesion was not peri-uterine, and the resources of peritoneal surgery were decidedly contra-indicated.

As to the removal of the diseased appendages, there are cases

in which surgery may rightly intervene, but I am persuaded that these cases are not so very frequent as the prevalent zeal for operating might lead you to suppose. And this opinion is not merely theoretical. Ten days ago a woman of thirty came into my office and said that she was a milliner in a neighboring town. Being in the city "on business," and not feeling very well she had consulted a physician, who had startled her by the statement that the only cure for her case was to "take out both her ovaries!" And yet she assured me that for years she had not lost more than one day in each month from her duties on account of ill health. In recent times it is not an uncommon thing for women to get a notion, one way or another, that these organs should be removed and that all the doctors are ready and capable for this kind of service!

Is it too frequently made?

"It is not that this operation is being too much done, but it is being done by too many men. The trouble in this country is, that too many men think they are competent to open the abdomen and decide what there is there as well as those who have learned what they know from a large hospital and clinical experience. Let us put the blame where it belongs."—(*Stansbury Sutton.*)

While, under the proper circumstances, no operation is more promotive of good than this, I know of no more difficult question than to decide upon its advisability where an absolute diagnosis beforehand is impossible. Even the most experienced gynecologist will sometimes be forced to depend upon a preliminary laparotomy, which may be followed by the removal of the whole or a portion of the uterine appendages if it is best. In all cases, however, since the curative result is doubtful, and the operation is a dangerous one, the patient and her family should be made acquainted with the facts in the case, before the knife is taken in hand. When extirpation of the diseased structures is plainly a matter of necessity and not of choice we should proceed with the same precautions as for an ovariotomy.

The serious nature of.

Before describing the different methods of operating I must caution you against perpetrating a scandal and a slander upon all reputable gynecologists by the use of the word "spaying," as applied to the removal of the ovaries and their appendages in women. The spaying of females among animals, as you very well know, is resorted to for the purpose of fattening them, and to prevent procreation, and for no other reason. No honorable gynecologist

Oöphorectomy is not "spaying."

has ever proposed or practised oöphorectomy in women with these objects in view. It is a surgical resource that is always and invariably designed for the removal of diseased structures, which are directly and decidedly mischievous, and which, by involving and complicating the menstrual and nervous functions, give origin to chronic disease and invalidism. The indications for it may not always be very clear and definite, and it may sometimes lie within the domain of doubtful surgery, but, in decent hands, it never will deserve so unkind an epithet.*

BATTEY'S OR HÉGAR'S OPERATION.—OÖPHORECTOMY.

This operation which was first made by both Hégar and Battey in 1872 independently of each other, consists in the removal of one or both the ovaries for the cure of local, incidental, or reflex disorders. The cases to which it is adapted are the intractable menorrhagia that is incident to uterine fibroids, in which it acts by precipitating the menopause; epileptiform hysteria, especially if it is of traumatic origin, with displacement of the ovary (oöphoro-epilepsy), as in some of the cases which you have seen in my clinic; reflex insanity (oöphoro-mania) where the trouble recurs, or is greatly aggravated at the month (menstro-mania); and an otherwise incurable ovarian dysmenorrhœa. It is not suited to nymphomania, nor is it necessary in disorders of a purely hysterical kind. In rare cases as in atrocious ovarian neuralgia, even when the ovary itself is not organically diseased, it may be the source and the center of reflex mischief that is incurable by any other means.

Cases to which it is adapted.

Dr. Battey's most recent statement of the indications for this operation are as follows: "The circumstances under which I would remove the ovaries are (1) where the general health is broken down by disease, where there is no reasonable expectation of restoration by any other known means, and where I think there is reasonable prospect of restoration by a loss of the ovaries. (2.) The patient must be utterly miserable. (3.) It must appear that there is no other practicable remedy. (4.) It must appear probable that the operation will eventuate in a cure." (*Trans. Am. Gynecological Society*, 1886, page 114.)

Indications for.

Now, that the removal of sub-serous fibroids of the uterus

*The word "spaying" is eminently objectionable, for it is entirely misleading. Whenever used it at once conjures up the idea of masculine voice, the growth of a beard and other male peculiarities, as well as the loss of sexual appetite, not one of which is an incident in the complete after-history of a case of the removal of the diseased uterine appendages from a mature woman. It is a term, therefore, which ought not be used, as well for the other reason, which you so trenchantly pointed out, that it is one of reproach to the poor sufferers who have had to submit to it. (Cor. of LAWSON TAIT.)

through abdominal section (laparo-myomotomy), and of the uterus also (laparo-hysterectomy) is practised by our specialists with increased safety and success, the extirpation of the ovaries in order to control an incidental menorrhagia is not so commonly resorted to as it was a very few years ago. And experience has taught us that too much was expected of this operation when it was made for the relief of obscure reflex disorders of the nervous system without care and discrimination. We are learning that it fails of a radical result if the nervous lesion is not centered in the internal generative organs, of which the ovary is the chief. You will recall the fact that I have promised very little in these cases before the operation was begun, because it

In uterine fibroids.

In nervous affections.

FIG. 189. Diseased ovary and tube. (*Terrillon.*)

was impossible to say whether the ovary was primarily and chiefly at fault. And in old neurotic subjects it may happen that secondary lesions of the nerve-centres have become so fully developed as the result of chronic ovarian disease, that the removal of the original thorn in the flesh will not cure the case. Whatever the condition, and however strong the indications for Battey's operation, you should remember that the nervous symptoms especially will be slow to leave and to yield, and that possibly the cure will be delayed for a year or more. Nor should you forget that a section of the peritoneum will bring you face to face with the organic lesion, if there is one, and not leave you to guess at the import of symptomatic indications of the most unsatisfactory kind.

The forms of mania that depend upon sexual causes are so varied, and often of so transient a character, that this operation is not always advisable, even when the ovaries are in a high state of irritation and of chronic disease. I have repeatedly seen cases of mental aberration and nerve-storm in which one would be tempted to remove the ovaries, but which have proved to be self-limited, and have finally gotten well without it. In some of them the fault was with the husband, and if any operation was justifiable, he should have been the subject. The real point of difficulty is to decide what forms of neurotic disease are most likely to be improved or cured by this operation.

In mania.

It is important to bear in mind that isolated and uncomplicated disease of the ovaries is the exception and not the rule; for it rarely happens that the corresponding oviducts are not also involved in the morbid process. (Fig. 189.) The result is that the extirpation of the ovaries alone is not always sufficient. One or another of the

Removal of the tube with the ovary.

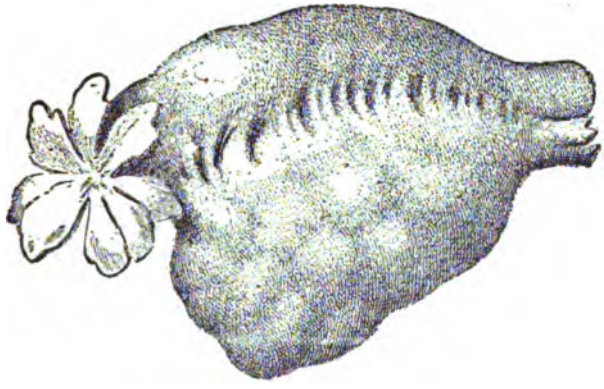


FIG. 190. Pyosalpinx with adherent ovary. (*Terrillon.*)

forms of salpingitis already described almost always complicates the case, and it would not be either safe or expedient to leave a diseased tube behind. Sometimes these organs are so closely united through adhesive inflammation that it is impossible to separate them. (Fig. 190.)

The possible recurrence of the menses after the removal of both ovaries is a serious objection to the performance of Battey's operation for the cure of menorrhagia, and of other forms of pernicious menstruation. Such a result is attributable to the leaving behind of a shred of the ovarian stroma, to the location of ova-bearing

Recurrence of menstruation after the operation.

tissue between the folds of the peritoneum, or to the possible existence of a third ovary, which has not been disturbed by the operation.* Still another cause for this kind of failure is the non-removal of the tubes, which doubtless play an important part in the monthly function. Several of my cases after recovering from an ovariotomy, have continued to menstruate, but irregularly, through the pedicle which had been treated by the clamp. Instances have been reported, in which the pedicle having been tied and the ovaries left in situ, as advised by Simpson in 1879, menstruation not only recurred, but pregnancy actually took place. It is quite probable that *bistournage*, or the double torsion of the ovary, if it could be practised in women, would be followed by the same result. The crushing of the ovaries in lieu of their extirpation is a barbarous expedient that is never justifiable.

Bistournage, etc.

In detail this operation does not differ essentially from salpingotomy, or the removal of the tubes, with which it is usually conjoined, and of which we shall speak presently. Oöphorectomy may be made either by the abdominal or the vaginal method. In the great majority of cases the former is the easier and the safer method. The indications for extirpation of the ovaries *per vaginam* are substantially those which have already been given for vaginal ovariotomy. (Lecture LXI.)

TAIT'S OPERATION.—SALPINGOTOMY.

This operation is designed for the removal of the diseased tubes. Until it was made and had been frequently practised the physiology of the oviducts, as they are related to the function of menstruation, was not fully understood. And prior to that time the profession was almost equally in the dark concerning the pathology of this portion of the generative intestine. It was left for the knife of the gynecologist of our own day to direct the professional attention to these very important subjects, and to develop this special section of clinical surgery.

What medical science owes to this operation.

As already stated, the co-existence of tubal and ovarian disease usually necessitates the performance of both the operations under review. The Battey-Tait operation, or the Removal of the Uterine Appendages, is indicated under the conditions with which you have just been made familiar, and it only remains to detail the steps by which it should be accomplished.

The Battey-Tait operation.

*Weigel examined the bodies of six hundred women, of whom he found that twenty-three had more than two ovaries.

The preliminaries are the same as for an ordinary ovariotomy. (Lecture LIX.) The strictest surgical cleanliness of the hands, clothing, instruments, sponges, and the assistants, is indispensable. The incision should be made in the mesian line and need only be long enough for the admission of two, or at the most of three fingers. It can afterwards be enlarged if necessary. If the abdominal wall is very thick, it is better to put a loop of aseptic silk through all the tissues midway of each lip of the wound so that its margins can be retracted if necessary, and in order to avoid trouble in finding the peritoneum when the incision is to be closed. When the hæmorrhage from the wound

The different steps of.

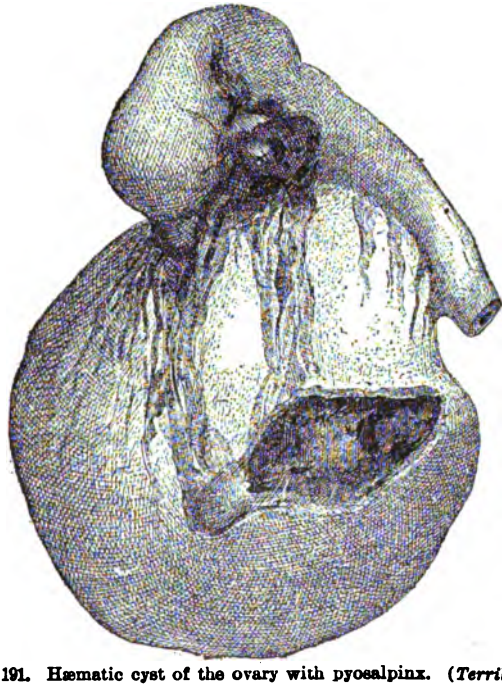


FIG. 191. Hæmatic cyst of the ovary with pyosalpinx. (*Terrillon.*)

has been controlled, the peritoneum is opened, any parietal adhesions are carefully separated, and the *clean* fingers of the operator are passed to the fundus of the womb, whence they glide along the Fallopian tube to note its size, form, and relations, and finally, to the ovary. If we encounter a cyst, or a fluctuating tumor the probability that its wall will be fragile, and that it might be ruptured by the necessary manipulation is so great that it had better be carefully tapped and its contents removed. This can be done by such a small aspirator as you saw me use

for this purpose a few days ago, and will prevent the mischievous discharge of the poisonous fluid into the peritoneal cavity.

If only one side is affected, and the uterus is not retroverted, the lesion of the tubes and of the ovaries, if both are involved, can be readily identified. Moreover, such a case is pretty easily managed, for, if there are no complicating adhesions, the tumor can be speedily drawn to the lower angle of the wound and disposed of. But, suppose you find a double pyosalpinx, or that a prolapsed tube is adherent to the sigmoid flexure, with a chronic uterine displacement, or there is a hernia of one or of both the ovaries, with adhesions on all sides, more especially in the Douglas pouch? In this case the ligaments and the tubes are rolled up, and the ovary is so imbedded in a mass of tissue that you can scarcely identify it, much less detach it and bring it away with safety to the patient. This is the especial point of difficulty and

The difficulties and dangers of.

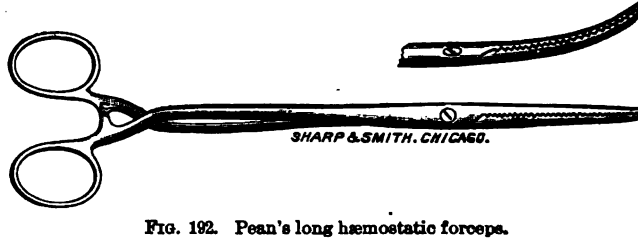


FIG. 192. Pean's long hæmostatic forceps.

of danger; and, although we read and hear of these organs being plucked out in the space of five or ten minutes, it will be safer for your patients and mine if we shall hasten a little more slowly.

With hydrosalpinx the adhesions are not likely to be so firm and vascular as they are in pyo- and hæmato-salpinx. Classes 6 and 7 will not soon forget the varicose enlargement of the pampiniform vessels in the right broad ligament which they saw in our last operation of this kind. That was a condition in which a little rough handling and despatch might easily have induced a fearful, if not a fatal hæmorrhage.

The adhesions in.

When the dilated and degenerated organs have finally been brought to light they may be secured with Péan's hæmostatic forceps (Fig. 192), or some similar instrument, and afterwards tied with a Staffordshire knot. The double ligature that is interlocked and tied both ways answers equally well. Some operators think it safer to put a second ligature about the pedicle *en masse*.

The hæmorrhage must be guarded against, and before the pedicle is dropped into the abdomen again it should be carefully dried. My own practise is to cauterize the stump the same as in ovariotomy. If the second ovary and tube are in the slightest degree diseased they also should be removed. The operation of extirpating the tube with the ovary gives a better pedicle and therefore better results than if only the ovary is taken.

Hæmorrhage and drainage.

The shreds of adhesions and the denuded edges and surfaces of the omentum especially are very apt to bleed freely. Should hæmorrhage occur from this source a few catgut ligatures may be necessary, or if there has been an accidental rupture with the discharge of the cyst contents into the peritoneal cavity, boiled and filtered water at a temperature of 102° to 105° may be poured into the abdomen to stop the flow and to cleanse it thoroughly. The question of drainage is easily settled. The more extensive the adhesions, and the greater the probability of a copious effusion of bloody serum from the torn surfaces, the greater the need of the glass tube as a prophylactic of sepsis. Where there has been an ascitic accumulation there is an especial indication for drainage. The tube should afterward be taken care of as in ovariotomy.

Closure of the wound.

The wound should be carefully cleansed before it is closed, and the deep sutures passed first in order, after which I think it is better to stitch the peritoneum separately with the continuous catgut suture before the others are tied or twisted. The dressings should be dry and antiseptic, and the after-treatment essentially the same as was recommended in Lecture LX.

LECTURE LXIII.

FIBROID TUMORS OF THE UTERUS.

Uterine fibroids. Their relative frequency, pathological anatomy, number, weight, texture and varieties. 1. *Sub-mucous fibroids.* Symptoms. The hæmorrhage, uterine deviations, the uterine souffle, tolerance of the tumor, bi-manual examination. Causes. Diagnosis from ovarian dropsy, pregnancy, hydatids, and uterine versions. Prognosis. Treatment, medical, palliative and surgical. 2. Sub-peritoneal fibroids. Symptoms. Co-incident disorders. Diagnosis. Course and termination. Treatment, medical and surgical. Hysterectomy.

A course of lectures on our speciality would be very incomplete without some remarks upon the clinical history and treatment of uterine fibroids. This is true not only because of the interest which attaches to neoplastic growths in general, but especially because those which are uterine are more readily diagnosticated and cured than they were a few years ago.

Relative frequency.

These tumors which, according to various authors are found in from 20 to 40 per cent. of those women who are ill with uterine disease after their thirty-fifth year, are benign and not malignant. Nor do they ever degenerate into cancer, or any other form of malignant growth. This fact is interesting in a prognostic point of view, and also with respect to their cause and mode of development.

Pathological anatomy.

I need not remind you that the fibrous and cellular structures of the uterine wall exist in a rudimentary state until they are especially developed in consequence of conception, or of growth within the uterine cavity of a foreign body of some kind. The possibility of this extraordinary increase necessitates such changes in the circulation to and through the organ as will supply sufficient nutritive material therefor. It is because the depth and dimensions of the uterus may be so much increased, in consequence of a physiological stimulus, that these fibroids are formed. In all essential particulars, their growth and development is identical with that which takes place in the muscular coat of the womb during pregnancy. The only difference is that in fibroids the actual increase in the substance of the uterus is circumscribed, instead of being general; and that it is pathological and more or less permanent, instead of

being physiological and of limited duration, as it is in pregnancy.

Unless they have undergone some form of benign degeneration, fibroids are therefore homologous and not heterologous. There is indeed a new growth of tissue, but it is of the nature of a local hypertrophy, and, excepting in a mechanical way, is not foreign to the part affected. Sometimes these tumors consist exclusively of a prematurely developed muscular fibre, constituting veritable myomata, but in most cases the connective tissue is also involved, and hence it has been customary to style them myo-fibromata. Microscopically considered, there is nothing distinctive in these growths, excepting perhaps, that the arrangement of their fibres is more irregular, wavy and tortuous than in the proper uterine tissue.

Homologous growths.

These tumors are either single or multiple. There may be but one of them; there have been as many as forty within and upon the same womb. They generally assume a rounded form at first, and afterwards change their shape, according to circumstances. They may remain sessile, but are more apt to become pedunculated. Their size varies from that of a marble to a man's head, or even larger. They may weigh an ounce, or as much as twenty, thirty, fifty, or even a hundred pounds. Their solidity varies with their location and vascularity, the rapidity of their growth, and their tendency to undergo cystic, carneous, calcareous, or fatty degeneration. The more strictly fibrous the tumor, the more succulent it is.

Number, weight and texture.

There are three varieties of uterine fibroids which are named from their location with reference to the cavities of the womb and of the abdomen, and also to the uterine wall. I will speak of them separately.

Varieties.

I.—SUB-MUCOUS FIBROIDS.

As their name implies, these tumors are situated directly beneath the endometrium, or lining membrane of the womb. They are really contained within the uterine cavity, and hence are frequently styled intra-uterine. Their mode of development appears to be as follows: From some cause, which may be known or unknown, the fibro-cellular tissue

Sessile or pedunculated

of the uterus becomes thickened, and of increased vascularity at a particular point. This growth, nodule, or hypertrophy, continues to increase in size, perhaps for months, or even for years, without any untoward symptoms. Being located in closer proximity with the mucus than with the peritoneal coat of the organ, it pushes in that direction, and finally invades the uterine cavity. Here it may continue to grow in all directions as a round tumor, with a broad base, which gradually fills the womb; or it may become pear-shaped, and finally develop into a fibrous polyp, with a neck or stalk which is sufficiently long and slender to allow it to drop into the os internum, or even into the vagina. As in ovarian tumors and polypi, the pedicle is the means of keeping up the vascular connection with the uterus. (Fig. 193).

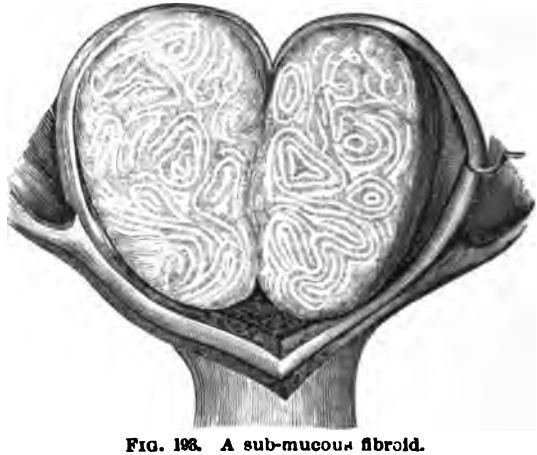


FIG. 193. A sub-mucous fibroid.

Symptoms.—The symptoms indicative of the presence of such a tumor are objective and subjective. The patient complains of a sense of weight and dragging down, intra-pelvic pains and distress, lumbo-abdominal aching, vesical or rectal tenesmus, inability to walk without great dread of procidentia of the pelvic organs, uterine colic, pains in lying upon one side or the other, sick headache, nausea, morning sickness as in pregnancy, copious and sometimes very painful menstruation; the catamenia are too frequent as well as menorrhagic; weakness, prostration, constipation and unrest. Of course these symptoms vary in different cases, and also with the size and shape of the tumor or tumors. The larger the tumor the greater the coincident suffering. Pedicu-

lated fibroids are, in general, more likely to excite strong uterine contractions than those which are sessile. Indeed, there is a theory that, in some cases, the force of the peristaltic contractions of the womb, or the uterine tenesmus, is the cause of this particular form of the tumor, and that these bear a constant relation to each other. My own observations confirm the truth of this theory. There are, however, some exceptions to the rule.

Other forms of uterine fibroid may also excite contractions that resemble those of labor; and hence this symptom does not belong especially to those growths which are contained within the

FIG. 194. A sub-peritoneal fibroid.

body of the womb. Here is a drawing (Fig. 194), in which the fibrous growth is attached to the fundus of the uterus externally, and you can readily see that it might be the cause of pains like those of labor, although there is nothing to be expelled from the uterine cavity. However, the rule is that sub-mucous fibroids are more likely to be accompanied by labor-like pains than are either of the other varieties of uterine fibroids.

The most alarming and constant of these symptoms is the hæmorrhage which, however, is a menstrual flux. Seventy per cent. of intra-uterine fibroids are accompanied by hæmorrhage. The flow, which is very free, is usually, but not always painful, and very debilitating. If it has continued long, the patient becomes anæmic, bloodless, and perhaps dropsical also. It returns every fortnight, or three

The hæmorrhage.

weeks; she does not recover from one attack before another is upon her. It is astonishing how small a fibroid may serve to perpetuate such a hæmorrhage. For it may happen that a little body of this sort, which is not larger than a grape, may cause as great a loss of blood as sometimes does the fragment of placenta which is left in the womb after an abortion. Leucorrhœa, serous discharges and obstructive dysmenorrhœa are often due to the presence of uterine fibroids. More rarely the tumor blocks up the outlet, and there is complete retention of the menses.

Incidental symptoms of uterine deviation are always present. The larger the tumor the greater the displacement. Being attached more frequently to the posterior wall of the womb, retroversion and retroflexion are very common. If, however, as sometimes happens, the point of attachment is to the fundus, and the tumor is a very large one, the organ may be inverted. Anteversion, anteflexion and prolapsus are not infrequent. Latero-version, a state of things in which the body of the womb is forced towards one side of the pelvic basin, is sometimes caused by the presence of an intra-uterine fibroid.

Uterine displacements.

Beside the morning sickness, anorexia and caprices of appetite, the development of the mammary glands, of the areolæ, and of the abdomen, there are other signs simulating those of pregnancy, that are caused by the growth of a fibroid in utero. The cervix is shortened, and may become flaccid and patulous. More frequently, however, after some months, it forms a ring which is resistant and sometimes very sensitive to the touch. Auscultation through the abdominal parietes (providing the tumor has passed above the pelvic brim) reveals the uterine *souffle*, which you remember was once regarded as a positive sign of pregnancy.

Changes in the cervix.

The uterine souffle.

In exceptional cases there is a singular tolerance of the presence of these tumors. Some women carry them for years and become so accustomed to them that they make very little if any complaint of them. It is only in consequence of the hæmorrhage, or the pressure they occasion, that they are led to take measures for their removal. They do not always interfere with pregnancy, although they grow more rapidly in the gravid than in the non-gravid uterus. They sometimes cause abortion.

Tolerance of the tumor.

These tumors, as they grow, lead to an enlargement of the uterus and an increased size of its cavity. Hence, if the organ is not quite filled with the fibroid, the sound will pass quite readily, and perhaps farther than you would have supposed. For the depth of the uterus may be as great as it is at term. In order to get the best idea of the size, and the point and mode of attachment of the growth, you should select a flexible sound, which will adapt itself to the contour of the tumor without force, and, therefore, without inducing pain or hæmorrhage.

Increased size of the uterus.

As felt through the abdominal parietes, the outline of the tumor can usually be very well recognized. There is dullness on percussion over the whole anterior surface of the womb. It is not unusual for the patient to complain that one particular spot is and has always been painful and tender to the touch; but there is no diffuse soreness. The uterus is hard and resistant to external palpation.

Physical signs.

These tumors, being invariably attached to the body and fundus of the womb, a vaginal examination by the touch is of little use unless the growth is large enough to be felt, or so to displace the uterus that it can be reached. In case the tumor is very large, the whole organ may be displaced upwards, above the brim of the pelvis and the "touch" reveal nothing. In some cases the "touch" may be conjoined with pressure with the tips of the fingers of the free hand over the uterus and just above the pubes, as in Sims' bi-manual exploration.

The "touch."

Bi-manual examination.

Causes. — The causes are not well known. That the growth of these tumors bears a certain relation to the menstrual function, and to that of procreation also, is evident from the fact that they are most frequently developed at a period when these functions are most active. But precisely what that relation is has not been determined. In a certain class of cases it is probable that the fibroid is a sequel, or a consequence, of the incomplete involution, or folding upon itself, of the uterus after delivery. It has happened that a clot has been found to form the nucleus of a uterine fibroid.

Menstruation and child-bearing.

Diagnosis. — The diagnosis is difficult. I have already told you

how to diagnosticate a case of intra-uterine fibroids from one of ovarian dropsy.* The hardness and mobility of the tumor; the absence of fluctuation; the depth of the womb, as shown by the distance to which the sound will enter; the co-existence of hæmorrhage, which may be menstrual, but is often inter-periodic; the pain and uterine tenesmus; the uterine souffle in either groin; the uterine displacement and leucorrhœa; and the comparatively slow rate of the growth of these fibroids, are sufficiently characteristic. The occurrence of uterine fibroids and of ovarian dropsy are not very frequent in those who have never been pregnant.

From an ovarian cyst.

The incidental hæmorrhage, with its tendency in most cases to return at or near the month with tolerable regularity; the tardy and protracted growth of the tumor; the absence of quickening and of the fœtal heart sounds; the rounded outline and hardness of the tumor as felt through the abdominal walls; the patulous state of the os uteri; and the persistent displacement of the womb, are so many signs which will help you to differentiate this variety of uterine fibroids from pregnancy. The altered and peculiar shape and consistence of the cervix in case of placenta prævia, would be as different from that which is proper to uterine fibroids, as it is from that of ordinary pregnancy. You should not forget that it is possible for a woman with any variety of uterine fibroid to become pregnant, although, in case of the intra-uterine variety especially, they seldom reach term without aborting. It is therefore best not to pass the sound in all cases indiscriminately, and without thought of the possible consequences. Perhaps, in a majority of cases the large fibroid becomes impacted in the pelvis and does not rise into the abdominal cavity, as the gravid uterus does, at or about the fourth month.

From pregnancy.

In the case of uterine hydatids the abdominal tumor is larger, grows more rapidly, is characterized by smoothness, fluctuation and decided distention, which subsides somewhat with occasional discharges of serum and blood. Sometimes small portions of the mass are detached and extruded, from which specimens it is possible to recognize the nature of the growth. When there is copious or continued hæm-

From hydatids.

* See page 369.

orrhage, the diagnosis from a uterine fibroid is more difficult. In this case a decision can be reached by dilatation of the cervix and an exploration of the uterine cavity by means of the finger or the uterine sound.

It is quite impossible, in most cases, to distinguish an intra-uterine fibroid from a fibrous polypus, without artificial dilatation of the cervix and careful exploration, unless the polypus is large enough, and its pedicle sufficiently long to enable it to drop into the canal of the cervix, or into the vagina. Their differential diagnosis is, however, not a matter of very great importance. The only real difference between them is that the fibroid is enclosed in a proper capsule, which really disconnects it from the surrounding tissue; while the polypus is a true out-growth, which is continuous with the substance of the uterus and covered only by its lining membrane. These differences are not observable, however, until the growth has been removed.

From fibrous polypi.

These fibroids have sometimes been confounded with the tumor formed by inversion of the womb. They have many symptoms in common. But inversion follows the evacuation of the uterus. Either the woman has recently been delivered, in abortus or at term, or the organ has first been distended and developed by a contained tumor, and finally turned inside out during or in consequence of its delivery. The best test between these tumors, however, is a very simple one. In inversion the tumor is sensitive, and if you stick a pin into it the patient feels it; but not so in case of the fibroid.

From inversion of the womb.

By means of the uterine sound or probe alone you can diagnosticate retroversion and retroflexion of the uterus from a sub-mucous fibroid.

From retroversion and retroflexion.

Prognosis.—There are several sources of danger in this disease. The hæmorrhage may drain away the strength, and so undermine the health as finally to destroy life. Sometimes such patients die very suddenly from excessive loss of blood. In consequence of the mechanical pressure of the tumor upon the pelvic viscera, or upon the ureters, serious disease may be caused in the bladder, the bowels, or the kidneys. The reflex disorders occasioned by the same cause are harassing and

May die suddenly.

exhausting. The impairment of digestion, respiration, and especially of the circulation are sometimes very serious.

In some cases the symptoms are very deceptive, and give no reliable criterion of the gravity of the disease. Women who have carried these tumors about with them for years with almost no complaint, and at last find themselves ill, are apt to drop off very suddenly; while those who complain most bitterly are often in a less dangerous condition.

Symptoms deceptive.

The risk of operative interference is less than in either of the other varieties of uterine fibroids. There are two reasons for this fact: (1) because the tumor is more readily reached and removed, and (2) because the danger of consequent inflammation is in proportion with the liability of wounding or cutting into the peritoneal surface of the womb.

The risk of an operation.

Treatment. — The treatment is medical and surgical, or palliative and radical. Whatever contingencies beset the case must first be removed. The hæmorrhage is the source of danger and must be controlled. For this purpose such remedies as ipecacuanha, china, arsenicum alb., hamamelis, erechthites, crocus sat., cinnamonum, trillium, secale cor., sabina, belladonna, nitric acid, or ferrum met., may be given each under its appropriate indications. The suitable remedy will generally suffice to relieve the pain as well as the excessive flow.

Medical.

If the hæmorrhage is copious and continuous, and it becomes necessary to stop it at once, in order to husband the patient's strength and to save her life, and internal remedies act slowly or fail altogether, recourse must be had to such local treatment as was recommended in my lecture on uterine hæmorrhage.* You doubtless remember what I then said of such available expedients as cold water locally and by injection, ice, ice-water, pouring cold water from a height upon the abdomen, colpeurysis, and the tampon. In some cases the sponge tent makes an excellent tampon for the cervix; and Palfrey† recommends to introduce the speculum, to draw down the anterior lip of the cervix, and then, with the uterine sound to pack its canal with a long and narrow strip of lint. The lint, which may have been soaked in carbolized water, should be

Palliative.

* See page 80. † Medical Press and Circular, Vol. VII. p. 516.

allowed to remain for about twenty-four hours before it is removed.

Among the improved methods of hæmostasis, which also include a more or less permanent exemption from the flow, there is no simple expedient that is more valuable than the introduction of the sponge tent. I have known it alone to prevent the return of the menorrhagia, and to secure a natural flow for months in succession.

The spongo-tent as a hæmostatic.

In obstinate cases nicking, slitting, or incising the os uteri with a curved, blunt-pointed bistoury, a pair of scissors, or the hysterotome, has also been practised with marked success. Whether these latter means are efficacious because they unload the engorged vessels, or because by dilating the os uteri, they empty the womb of its more fluid and distensible contents, and thus remedy the difficulty, I am not prepared to say. But that they certainly present a valuable means of relief, which is always available, and which, until quite recently, was unknown, I am well assured.

Incision of the cervix.

If this treatment fails to bring the desired relief, Dr. Atlee* recommends to follow up the section of the os uteri with a free division of the capsule of the fibroid in utero. This is accomplished by means of a long-handled, curved and probe-pointed bistoury, which is to be passed into the uterus as far as the guiding finger will reach, and then drawn firmly down over the tumor so as to cut through its capsule and into its substance to the depth of half an inch. This operation not only lessens the hæmorrhage, but so impairs the nutritive vitality of the fibroid that its destructive metamorphosis is soon established, and it will be either enucleated spontaneously, or thrown off with a kind of leucorrhœal discharge. This practice seems to me to be especially adapted to tumors with a broad base and margin of attachment.

Dr. Atlee's operation.

There is a certain proportion of cases of uterine fibroids, more especially of the sub-mucous and the interstitial varieties, in which the hæmorrhage can be controlled and the growth of the tumor held in check by the sub-cutaneous injection of ergot. I could cite

Hypodermic injections of ergot.

*Transactions of the American Medical Association, 1858, p. 558.

you many cases in which I have been successful by this means; in a few of which the growth has disappeared entirely. Occasionally there is such a susceptibility to the action of this poison that ergotism is readily induced, and we have to desist from its use. I prefer Squibbs' solution of ergot, which can be prepared by any responsible druggist, which ought to be fresh, and which contains a grain to the minim. Of this solution from three to six drops may be thrown into the integument in the hypogastric region (but not perpendicularly into the tumor), two or three times per week. Bartholow's solution also answers very well. A good result from the ergot is that uterine contractions which tend to force an interstitial fibroid into its cavity, and a submucous fibroid into the vagina, where they are accessible, is pretty sure to follow. The taking of ergot by the mouth will almost never do any good in these cases.

Battey's operation in.

Another expedient for the control of the hæmorrhage is a resort to the removal of both the ovaries, as already described under the head of normal ovariotomy. The effect of this operation is to arrest the monthly flow and to precipitate the menopause. As a natural consequence the periodical afflux of blood to the womb is arrested and that organ with whatever is nourished by its vessels undergoes the same atrophy as if the change of life had come about in the natural way.

Electricity and electrolysis in.

Very much has been claimed for electricity in the cure of these tumors, but I know of very little that is to be relied upon in the support of that claim. It is so serious a matter to puncture these growths, and such fearful consequences have sometimes followed their perforation, that I confess to a dread of running the electrical, or any other kind of needle into them. Dr. Cutter puts the case very well when he says that galvanism is *a* means, but not *the* means of treatment for sub-serous uterine fibroids.

An animal diet in.

The same authority* quotes a number of cases to show that the growth and development of some of these fibromata may be largely if not wholly controlled by an exclusively animal diet. I have not tested this

* Cutter: Food as a Medicine in cases of Uterine Fibroids, American Journal of Obstetrics, etc., Vol. X., page 562.

matter except in a case which was brought to me by the late Dr. Von Tagen, in which it had no perceptible effect.

But unless Dr. Atlee's operation shall result in the extrusion of the fibroid, either as a whole or in fragments; or it shall be spontaneously detached and expelled, as it sometimes is, by strong uterine contractions; or unless it shall undergo some form of degeneration, and thereby escape or cease to be troublesome; a radical cure will only be possible by its excision and removal. This is to be effected by a ligation of the tumor. And two obstacles are in the way of its accomplishment. The first of these is the narrow state of the cervix uteri. To overcome it we must resort to free dilatation. If the tumor is quite large, and the cervix is shortened and softened, as in the later months of pregnancy, two or three sponge tents of various sizes may be introduced successively. These will expand the neck so that the fingers can be passed within the womb, the exact site of the tumor ascertained, its mode of attachment also, and the instrument adjusted. For this must be done by the sense of touch, and not by sight.

Excision of the tumor.

First obstacle.

In the more rigid and unyielding states of the cervix, the sea-tangle tents are preferable. Of these quite a number are to be passed through the internal os uteri one after another, until it contains from three to seven or eight of them. The longer these tents are the better. They should be allowed to remain for from twelve to twenty-four hours. On their removal, it the dilatation is not sufficient, one of Barnes' rubber dilators may be inserted through the cervical canal, inflated, and left in situ for some hours longer. These expedients will provide a mode of entrance that will make the further steps of the operation possible. To secure a free expansion of the cervix, it may perhaps be necessary to incise it at the same time that you dilate it.

Dilatation the first step.

The second obstacle in the way of operating in some of these cases is the difficulty of adjusting the ligature, or rather, the chain or wire of the ecraseur. If the tumor is in the vagina, and is not very large, there will be no trouble in this respect; but if it is in the uterus, and more than all, if it is attached to the fundus, and has a broad base, in-

The second obstacle.

stead of a pedicle, you will find that it is not so easily done as you might have supposed. Indeed, it may require repeated trials

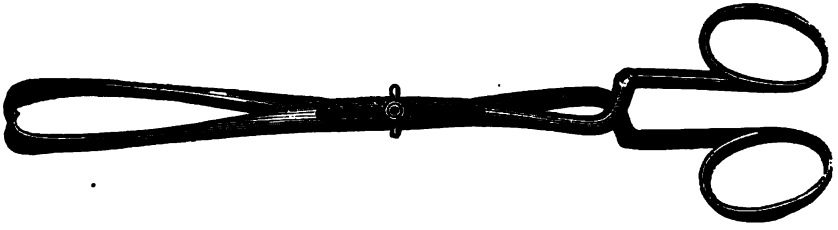


FIG. 195. Greenhalgh's tumor forceps.

before you succeed in carrying the loop of the ligature over and beyond the tumor. A few authors insist that, to facilitate this

FIG. 196. Sims' volsellum hook.

object, the uterus should be dragged down to the vulva. But, unless in very exceptional cases, this proceeding is barbarous and unnecessary. See case given on page 893.

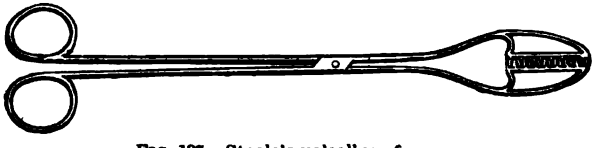


FIG. 197. Steele's volsellum forceps.

It is quite a different thing however, to sieze the tumor and draw it down. This expedient is so necessary in most cases that a volsellum of some kind should be at hand, and it is best to be

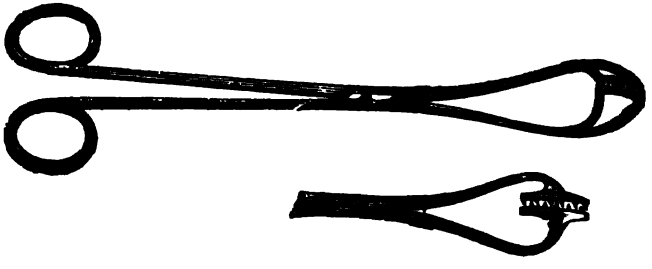


FIG. 198. Byrne's volsellum forceps.

provided with two or three of them. Greenhalgh's tumor forceps (Fig. 195), Sims' volsellum hook (Fig. 196), Steele's (Fig. 197),

or Byrne's volsellum forceps (Fig. 198), or the simpler tenaculæ (Figs. 199, 200) are excellent in suitable cases.

This manipulation, if successfully made, facilitates the adjustment of the ecraseur, with which we intend to excise the tumor.

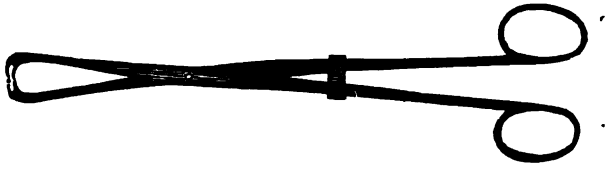


FIG. 199. A volsellum forceps.

And here again there is a choice of instruments. The texture of the growth is so firm that a delicate instrument would soon be

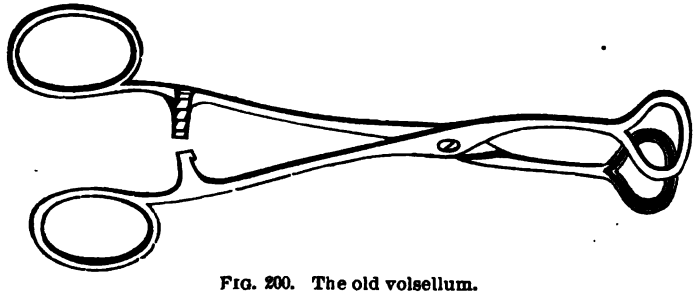


FIG. 200. The old volsellum.

broken; and therefore the ecraseur must be strong enough for the purpose. If the tumor is really within the uterine cavity the instrument should not have a straight shank, as in (Fig. 201), but should be curved like the uterine sound, (Fig. 202).

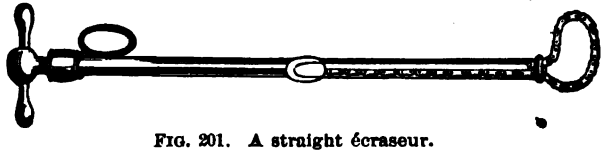


FIG. 201. A straight écraseur.

Whether the ecraseur shall carry a wire or a chain, or if they shall be united as in Thompson's instrument, (Fig. 203), will depend upon circumstances. Braxton Hicks' wire-rope, as well as the copper wire, are apt to get into a snarl, or to break from a strain. In two of my operations the strongest copper wire that I could find broke when the tumor was about half cut through. If you can succeed in adjusting the chain, I think you will feel most confident of a good result.

In order to ensnare the tumor most readily, let me give you a hint which I have found of great service. First ascertain as accurately as possible the precise site of the tumor, and its point of attachment to the uterine wall. Then place the patient in such a position that it will drop

A practical hint.

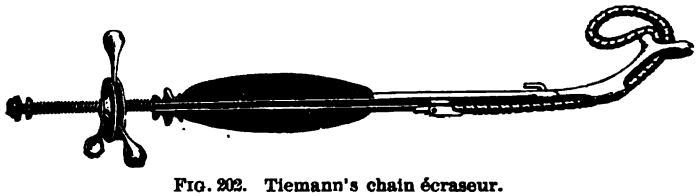


FIG. 202. Tiemann's chain écraseur.

away from its pedicle, or base, towards the opposite side of the womb. If it happens to be centrally located the position of the patient is less important. Fortunately a majority of these intra-uterine fibroids, and fibrous polypi also, grow from the posterior wall of the womb; and therefore the patient is usually placed in what is now known as the left lateral position.

When the instrument is finally adjusted, all that remains is to tighten it slowly and steadily until the tumor is cut off. This should be done very gradually, lest the wire break. Iron wire will not stand the strain; but the wire-rope or steel wire are more trustworthy. If the tumor

Caution.

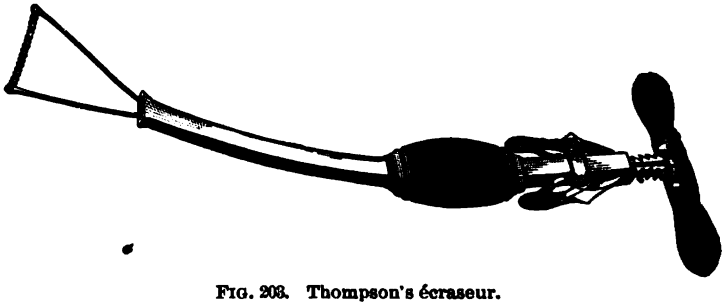


FIG. 203. Thompson's écraseur.

is a very large one, it may need to be delivered with the obstetric or other forceps, or perhaps to be cut into pieces before it can be brought away through the os uteri. Fortunately, in ecrasement, there is an exemption both from immediate hæmorrhage and from the danger of subsequent inflammation.

In rare cases, where the tumor is very large and pedunculated, and occupies the vagina, it is so difficult to excise it in the ordi-

nary way, that it has been recommended first to seize it with the obstetric forceps, and then todraw it out at the vulva, after which the ecraseur may be applied. This operation causes a temporary inversion of the womb; but

An exceptional case.

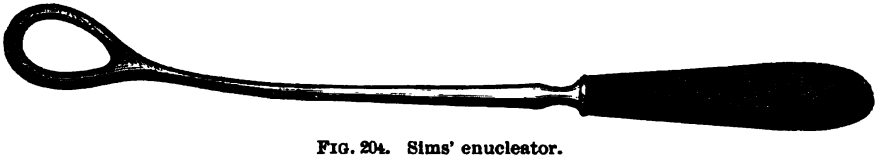


FIG. 204. Sims' enucleator.

the os having been stretched so widely by the tumor, and paralyzed by pressure upon it, is not likely to contract so firmly as to interfere with the reposition of the organ afterwards. If there is much hæmorrhage, the stump, or pedicle, may be seared with an iron at a white heat, or painted with the per-chloride of iron, before the uterus is replaced.

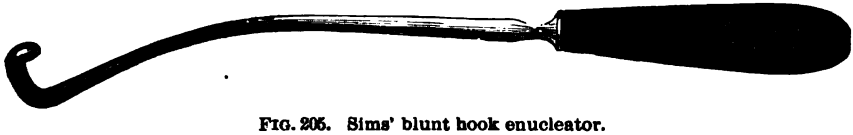


FIG. 205. Sims' blunt hook enucleator.

When the intra-uterine fibroid is attached by a broad base, its removal must be affected in a different way. The old plan was to make a deep gash into the tumor and then to insert a wad of cotton which had been dipped in oil, or a bit of caustic, and leave

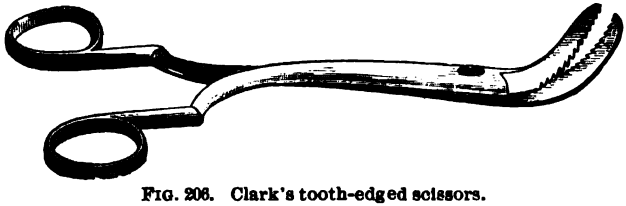


FIG. 206. Clark's tooth-edged scissors.

it there so as to induce a slough. Another method consisted in seizing the growth with a forceps and twisting and tearing it forcibly out of its bed; this was called the process of avulsion, and is discarded now.

Since many if not all of these sessile fibroids are encapsuled, Dr. Sims and others have practised their enucleation. After cutting through the investing tunic, a Sims' enucleator (Fig. 204), or his blunt hook (Fig. 205), may be introduced, and by careful and forcible manipulation the tumor may be rolled out of its bed.

In exceptional cases, according to Dr. Emmet, the tumor will cause the uterus to expel it in imitation of labor; and this process may be aided by cutting off the accessible portions, either with a curved scissors, or with a pair of tooth-edged scissors like these, (Fig. 206).

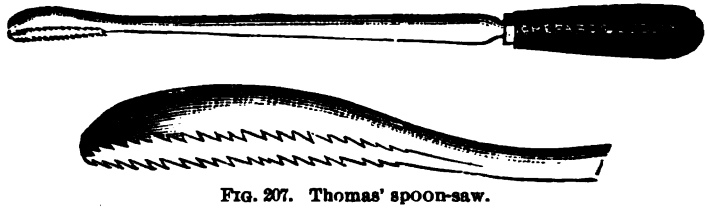


FIG. 207. Thomas' spoon-saw.

Dr. Thomas' method consists in seizing the tumor at its most dependent and accessible point with strong volsellum forceps, passing up along its sides the spoon-saw or serrated scoop depicted in Fig. 207, and by a gentle, pendulum motion from side to side sawing through the attachments of the tumor and freeing it entirely from its connections with the uterus." He says:

"The advantages which experience teaches me attach to this instrument are the following: (1) the attachments of the tumor are separated by a saw, which greatly limits hæmorrhage; (2) the slope of the spoon, convex without and concave within, causes it to follow of itself the contour of the tumor unless this be very lobulated, and protect the enveloping tissues from injury; (3) the highest points of attachment of the tumor are as readily reached as the lowest, the freed growth descending under traction as the saw severs its adhesions in successive sweeps around it; (4) the saw action gives to the process of separation, whether the growth be interstitial or submucous, sessile or pediculated, rapidity or certainty; and (5) and last, though by no means least, the nature of the spoon-saw secures separation of a growth at the highest point of its attachment, leaving no peduncle to decompose."

II.—SUB-PERITONEAL FIBROIDS.

These growths, which are located on the exterior surface of the womb, and beneath the peritoneum, are also know as sub-serous, extra-mural and extra-uterine fibroids. They are less frequent than either of the other varieties, but when they do exist, are almost always multiple. They grow more rapidly, are of various sizes, and may be very numerous. Not unfrequently the abdomen will be filled

Frequency, number, size. etc.

with one which is very large, while the exterior of the uterus is studded with a number of smaller ones that are undeveloped. Sometimes, however, two or more of these tumors may grow together and not differ materially in their size and form.

Symptoms.—Since they have no necessary connection with the cavity of the uterus, neither with its mucous membrane, nor indeed with the generative intestine in any way, the disorders of menstruation which are almost invariably present in the case of sub-mucous fibroids, are lacking in the sub-peritoneal variety. There is no especial liability to hæmorrhage, or to serous discharges from the uterine cavity.

The hæmorrhage that accompanies this form of fibroids is in proportion with the breadth of the attachment of the tumor. The longer and more narrow the pedicle the more decided is the exemption from menorrhagia. It is because these sub-peritoneal tumors usually begin as sessile growths and gradually become pedunculated that the monthly hæmorrhage in these cases is apt to diminish and finally disappear as time goes on. When this symptom continues, in case the tumor has a slender neck and is freely movable, then there may be good reason to suspect that other growths of the same kind have begun to develop upon the surface of the uterus. Here is a wet specimen in which you will find that there are thirteen of these extra-uterine fibroids of various sizes, with a varying breadth of attachment, upon a single uterus.

The symptoms are, however, chiefly mechanical. Small tumors of this kind occasion very little inconvenience, and may exist for years without symptoms. Larger ones drop into the retro-uterine space, against the bladder anteriorly, or press laterally in such a way as to cause pain within the pelvis or in the corresponding hip and thigh. If it becomes pedunculated, as it frequently does, the length of the pedicle may permit the tumor to float, as it were, and to change its position with reference to the pelvic organs, so as not permanently to displace the uterus. But, when there is no pedicle, and the growth has a broad base, the womb is almost certain to be dislocated and more or less fixed in an unnatural position.

Chiefly mechanical.

'Pressure on the bladder, even without co-existing anteflexion, may become so considerable as to compress it between the sym-

physis and the tumor, giving rise, in consequence, to secondary phenomena in the uro-poietic system. The hyperæmia of the pelvic blood vessels, occasioned by fibroid tumors, is frequently manifested in the mucous membrane of the bladder as a varicose distention of its veins, especially of those situated at the neck of the bladder; and Rokitansky even observed a case of rupture of a submucous cystic vein, with hæmorrhage into the bladder. Thomson relates a case in which a perforation occurred in the wall of the above organ from pressure of a large fibroid tumor, with adhesion of half of the periphery of the tumor to the borders of said perforation.

Effects of pressure.

"On the other side pressure affects the rectum, and defecation may be completely prevented by fibroids impacted in Douglas' space. They may also cause varicose distention of the hæmorrhoidal veins, and hyperæmia of the rectal mucous membrane in the same way as in that of the bladder."*

Hypostatic hyperæmia, or engorgement, of the utero-vaginal mucous membrane is a very common result of the pressure from these tumors. And hence they are likely to be attended, not only with uterine deviations, but with a coincident cervicitis, endo-cervicitis, endo-metritis, and vaginitis. Such local derangements of the circulation sometimes find vent in a critical hæmorrhage which is inter-periodic, and sometimes (though rarely in this form of fibroid) in copious or prolonged menstruation.

Coincident disorders.

In these extra-mural fibroids there is a marked and characteristic tendency to peritoneal inflammation. In many cases this lesion is latent and circumscribed, and as a consequence adhesions are formed which glue the tumor more or less firmly and generally to the neighboring parts or organs. At other times patients suffer from acute lancinating pains, are sick a few days, with a sharp attack of peritonitis, and then recover. All the suffering and all the sequelæ, however, are usually, but improperly, referred to the tumor itself. These are the adhesions which are encountered on section in gastrotomy.

Liability to peritonitis.

Diagnosis.—The frequency with which this class of fibroids is

* Pathological Anatomy of the Female Sexual Organs, by Julius M. Klob, M.D., etc. N. Y. 1868. p. 175.

located at the posterior cul-de-sac increases the liability of their being mistaken for retroversion or retroflexion of the womb. But the physical signs will enable you to distinguish them. Perhaps the "touch" reveals a tumor which lies in the hollow of the sacrum, but it alone is insufficient as a means of diagnosis. The bi-manual examination will help you to decide whether the upper and anterior portions of the uterus are enlarged or the seat of an abnormal growth. But it will not serve to differentiate between a fibroid tumor in the posterior part of the pelvis and a retroverted or retroflexed uterus. To settle this question, therefore, we must pass the uterine sound. If the point of the instrument looks towards the superior strait, as it should, when it has reached the fundus, the tumor is a fibroid, and the uterus is not displaced backwards. I should not forget to remind you, however, that, in certain cases, these two disorders co-exist.

From retroversion and retroflexion.

Having already detailed the signs by which you would diagnosticate an extra-uterine fibroid from an ovarian tumor or cyst, it is unnecessary to repeat my remarks upon that subject.

From ovarian dropsy.

So much depends upon the length and size of the pedicle in these cases that it is difficult to establish a rule of diagnosis between this form of fibroids and pregnancy. The uterus will be increased in its dimensions if the pedicle is short, and if the womb should grow and develop, the presumptive signs of pregnancy will be all the more prominent. There is, however, some considerable difference in the form and general character of the abdominal tumor in the two cases. In fibroids, if there is more than one, the outline of each can be recognized through the abdominal parietes. If these walls are thin, and not inordinately developed, the fibroid is felt to be a hard, firm, resistant mass, which imparts an entirely different sensation to the fingers from that of the elastic fluctuating sensation of the gravid uterus. Sometimes it is possible to feel the rounded, knob-like masses caused by smaller fibroids which are attached to the exterior of the uterus.

From pregnancy.

The uterine souffle will be very similar in both; but the possibility of hearing the fœtal heart-sounds will sometimes enable

you to decide between them. In fibroids the tumor develops very slowly, while in pregnancy the relative rapidity of its growth is much more marked. By withholding an opinion for a few weeks you may sometimes be able to settle the question of diagnosis very positively, on account of the size of the tumor having very much increased meanwhile, providing she is pregnant. Unmistakable quickening would also be diagnostic, but it must be real and not imaginary.

In the later months, the condition of the os and cervix uteri, the more or less regular return of the menstrual flow, the inability to feel the movements of the fœtus, the depth of the uterus as disclosed by the sound (which should not be passed if the signs of pregnancy are at all prominent, or unless in very extreme cases), will generally enable you to determine the diagnosis correctly. Time is, however, an important element in this respect. It may require that you make several examinations before your final decision is given. If so, and the patient is not *in extremis*, it will be well to allow the intervals between these several examinations to be somewhat prolonged.

Relative immunity from abortion.

When pregnancy occurs in the case of a woman who already has one of these sub-serous fibroids, it is more likely to extend to term without accident than in case of the sub-mucous tumors of which I have spoken, probably for the reason that in the former the uterine cavity and its mucous membrane are nearly or quite normal.

From pelvic cellulitis.

In these fibroids the previous history of the case; the absence of grave constitutional symptoms, chill, fever, and a tendency to suppuration; the fact that the tumor has been growing for months or years, and has no necessary connection with parturition, whether premature or not; neither with any traumatic or surgical injury; would serve to distinguish this affection from pelvic cellulitis. Add to this that in cellulitis the uterus is almost always fixed and immovable, while in fibroids it is not so, and you can have no difficulty.

From impaction of the fæces.

The tumor that is sometimes formed by impaction of the fæces is in no manner connected with the uterus, is posterior to it, does not move with it, is doughy to the feel and can be indented on pressure, is accompanied by symptoms of paralysis of the rectum, obstinate constipation, rectal tenesmus, and more or less of intestinal irritation.

Course and Termination. — Having free space, within the pelvis at first, and then within the abdomen, in which to grow, these tumors may reach a considerable size, and exist in a dormant state for years before they are observed or detected. And being, in most cases, unaccompanied by alarming or dangerous symptoms, harmless in themselves, and benign in their tendencies, their presence may be tolerated for many years more.

Toleration of.

Extra-uterine fibroids tend to develop into fibro-cysts, such as you saw in the case of Mrs. C. D——, in this clinic, some weeks ago This cystic degeneration is one in which the tumor becomes composite, and instead of being made up exclusively of fibro-cellular tissue, as it was originally, is composed of compartments, or cysts, which contain a quantity of serum, blood, or pus, or of all these commingled. It is only in case of the larger fibroids that this particular degeneration takes place; and you should remember that, although it is by no means very frequent in the sub-peritoneal fibroids, yet it is much more rarely met with in either of the other varieties of this disease.

Cystic degeneration.

Prognosis. — Concerning ultimate recovery from this kind of a fibroid you had better promise nothing. Nature may extemporise a means of palliation and relief, through an arrest of the development of the tumor, or even amputate it spontaneously by attenuation or rupture of its pedicle, so that it shall float around like a loose cartilage in the knee-joint, causing little pain or inconvenience; but it is not probable that she will remove it entirely. Pregnancy is not so serious a complication in extra- as it is in intra-uterine fibroids.

Nature's attempts to cure.

Although such a tumor may possibly co-exist with carcinoma uteri, yet it is a settled fact that uterine fibroids have no malignant tendencies, and do not, therefore, develop into cancer.

No risk of cancer.

Treatment. — Physicians are agreed that, more especially in the early stages of these growths, internal medication *should* suffice for their removal and cure. But to say that it ever *has* cured them is to claim too much for our skill. In the present state of our knowledge, the

Short-comings of internal treatment.

most that we can expect to accomplish with our remedies is the relief of contingent disorders and complications. And whether we shall ever improve upon this is largely a matter of "faith and works." If these tumors result from a simple hypertrophy of tissue, the resolvent powers of our medicines, locally and internally used, should be sufficient to arrest their development, if not indeed to cure them radically. Perhaps in the future we may be more successful with these means than we have been in the past.

Reasons therefor.

One grand difficulty in the way of this result, however, is the impossibility of placing such patients under proper treatment in the early stage of the disease, when the tumor or tumors are in their incipiency, and when specific means would act more promptly and perhaps successfully. Another is that the differential diagnosis is so difficult; and a third, that few women with these adventitious growths, or with uterine tumors of any kind (especially in these days of prize-surgery), are willing to take sufficient time to test the merits of internal treatment.

Surgical treatment.

The only surgical resource in case of the extra-uterine fibroid is gastrotomy. If the tumor has a well-defined pedicle, and its attachments are not very extensive or vascular, it may be removed, and the pedicle ligated, as in ovariotomy. A similar operation may suffice in case its stem or stalk is broken, and it is floating in the abdominal cavity. But, even after the abdominal incision has been made, if it is found that the growth is glued on all sides, and thoroughly amalgamated with the uterus and the neighboring parts, it is thought to be best to relinquish the operation, to close up the wound and allow the tumor to remain. This course is deemed proper because of the danger that would almost necessarily follow from the final extirpation of the growth under such adverse circumstances. These dangers include the possibility of the shock or collapse, hæmorrhage, fatal peritonitis and septicæmia.

Gastrotomy.

Hysterectomy, or the removal of the uterus itself, either wholly or in part, has sometimes been successfully practised for the radical cure for these fibroids. I have already described what is known as Freund's operation (page 705), and the more recent

method of ablation devised by Dr. Lane (page 706). You will find that, although this operation, like that of ovariotomy was almost always fatal a few years ago, its statistics are much more favorable now. During thirteen years ending with the first of January, 1878, Pean, of Paris, performed hysterectomy 24 times, with 16 recoveries and 8 deaths, or with a loss of one third of his cases.*

Extirpation of the uterus and the ovaries.

I know of no one in America who has had a more remarkable experience in the operation for the removal of the uterus than my good friend Dr. C. Ormes, of Jamestown, New York. You will find it detailed in the *Clinique* for May 15, 1881, from which paper we gather that out of five cases, three were followed by complete recovery. In one of these cases he reports that ten years after the operation the woman was well and hearty. In one of his fatal cases the fibroma was complicated with a colloid tumor of the ovaries, the whole mass weighing 51 pounds, the patient's weight in health being only 93 pounds.

Dr. Ormes' cases of uterine extirpation.

*Lecons de Clinique Chirurgicale, etc., par M. le Dr. Péan, etc., Paris, 1879, page 822.

LECTURE LXIV.

FIBROID TUMORS OF THE UTERUS.—(CONTINUED.)

3. *Interstitial Fibroids.* Symptoms. Dysmenorrhœa, menorrhagia, abortion, sterility. Diagnosis. The tenaculum, the sound and dilatation. Treatment, medical and surgical. Trillium in menorrhagia from fibromata. *Case.*—Uterine polypi. *Case.*—Pathology and treatment of.

Having discussed the special pathology and treatment of those fibroids which are denominated intra-uterine and extra-uterine, we now come to speak of such as are located within the wall of the womb, midway between its mucous and serous coats. These tumors, which are not in the uterine, nor yet in the abdominal cavity, are commonly known as

3.—INTERSTITIAL FIBROIDS.

They also have various synonyms such as intra-mural, intra-stromal, parietal, and intermediate. These are the round tumors proper, for no matter what their size, unless they are forced into the uterine or the abdominal cavity, and thereby become oval or perhaps pedunculated, their shape is unchanged. They are always enclosed within a proper capsule, and, like the other varieties, are most frequently located posteriorly with reference to the womb. In very rare cases they are met with at the lower segment of the uterus, and even in the cervix. But, wherever they are found, the neighboring portion of the womb is hypertrophied, and all of its tissues are preternaturally developed.

Symptoms.—The symptoms are more or less grave and troublesome according to the size of the tumor and the tendency to inflammation within or about the womb. If the growth is large, and fixed in the posterior wall of the uterus, that organ will necessarily be displaced posteriorly. For this reason retroversion and retroflexion are almost invariably present in these cases. But if the tumor is attached to the side of the womb, the latter will, of course, be dragged, or made to incline laterally.

Uterine deviations.

In a considerable proportion of cases there is dysmenorrhœa. The difficulty of menstruation is due either to the partial closure or the tortuosity of the cervico-uterine canal, which is caused by the flexion of the uterus and the presence of the tumor; or to the fact that this foreign body almost necessarily excites painful contractions of the womb whenever anything is to be extruded.

Dysmenorrhœa.

In other cases, I think there can be no question that the obstruction to the ready exit of the flow in dysmenorrhœa may indirectly cause such a tumor to be developed. It is reasonable to suppose that such a derangement in the uterine circulation as almost necessarily accompanies very painful and tardy menstruation, would beget a vice of nutrition that might result in local hypertrophy. And thus, in exceptional cases, it might be very difficult, and perhaps impossible, to determine whether the dysmenorrhœa was the cause or the consequence of the interstitial deposit.

On account of their nearness to and intimate relations with the uterine mucous membrane, there is almost as great a liability to menorrhagia in the interstitial as in the submucous fibroid. The menstrual discharge is always too free, and the return of the periods is apt to be more frequent than natural. In many cases the flow is prolonged and continuous, the blood oozing away constantly. Or the hæmorrhage may be sudden and alarming, accompanied by violent pains and contractions like those of labor. Not unfrequently this condition of things is mistaken for abortion, more especially if shreds of membrane and coagula are expelled.

Menorrhagia.

The tendency to abortion is somewhat less marked than it is in the case of intra-uterine fibroids, but this accident occurs more frequently in this than in the extra-uterine variety. We can account for this clinical fact upon the theory that this adventitious growth diverts the nutritive supplies which are needed by the developing embryo. Perhaps a better explanation is that the tumor, or fibroid, excites such peristaltic contractions as are likely to empty the womb of its contents. The unequal development of the uterine wall is not without its influence also.

Abortion.

I have now under treatment two cases of sterility, which are due to the presence of parietal fibroids. In both of them the

growths are so situated as to cause violent dysmenorrhœa, and so decided a retro-flexion of the womb as absolutely to prevent the ingress of the semen masculinum. Under these circumstances insemination is impossible. In order to cure these women it will be necessary to remedy the displacement. But if conception were attained, they would almost certainly abort afterwards, unless the fibroid had been disposed of.

Sterility.

Other incidental disorders are endometritis, cervicitis, leucorrhœa, cystitis, proctitis, rectal ulceration and paralysis, inveterate constipation, hæmorrhoids, pelvic cellulitis, and pelvi-peritonitis.

Diagnosis. — In separating these from other foreign growths we are obliged to depend mainly upon physical signs. Examination is to be made with the finger per vaginam, and per rectum, and with instruments also, of the cervical and uterine cavities. The tumor must first be located, and afterwards identified. These steps are less difficult, perhaps, than in other fibroids, because in most cases the tumor is pelvic and not abdominal, and because it is so located in the hollow of the sacrum as to be more accessible.

The bi-manual method facilitates the examination by the "touch." The patient should be placed upon her back, the limbs flexed, and the abdominal parietes relaxed. The left hand is then to be placed upon the hypogastrium and pressure made upon the uterus over the pubes, so as to cause it to descend as far as possible into the excavation, toward the ostium vaginæ; the index finger of the right hand being at the same time within the vagina, or the rectum, is made to explore the lateral and posterior surfaces of the womb in such a manner as to recognize any increased or abnormal development of its wall.

The bi-manual examination.

Depressing the uterus.

Or, if the woman is corpulent, it may be necessary to draw down the uterus with a Sims' or Nott's tenaculum, in order to examine it more thoroughly through the retro-uterine space.

The uterine tenaculum.

The probe may suffice to indicate the presence of a tumor which presses towards the uterine cavity; but in general it will not diagnosticate an intra-mural fibroid, excepting upon the principle of exclusion. Thus, if the

The sound.

sound is passed without difficulty or obstruction, and takes the direction of the proper uterine axis, the inference is that, if there is a fibroid in the wall of the womb, it cannot be of any considerable size. For one of these tumors must almost necessarily displace the organ. A sub-peritoneal growth with a pedicle might fill the hollow of the sacrum without changing the axis of the womb, but not so with an interstitial fibroid.

However, if you can not satisfy yourselves of the existence of an intra-mural tumor, by the conjoined methods of which I have spoken, it will be necessary to proceed to dilatation, in order to be able to explore the cavity of the womb with the finger or other instrument. This may be done in the manner indicated in my last lecture. It should be done cautiously, however, lest you induce a severe hæmorrhage.

Dilatation.

The differential signs between an interstitial fibroid and pelvic cellulitis, pelvi-peritonitis, and kindred affections, with which it is sometimes complicated, and for which it has been mistaken, are the same as those by which you would distinguish these diseases and other sequelæ from sub-mucous and sub-serous fibroids.

Prognosis.—My own experience leads me to conclude that this variety of the myo-fibromata is more amenable to treatment than either of the others. Unless it be excessively developed, or attended by unusual hæmorrhage, or other dangerous complications, from which this class of fibroids is not exempted, you should not despair of curing your patient.

Relative curability.

A favorable change is likely to follow the ménopause. This crisis once passed, the chances are that with the subsequent atrophy, or senile involution of the uterus and the ovaries, such a growth may also undergo a retrograde metamorphosis, and never occasion any more trouble. Sometimes, however, these fibroids cause the climacteric to be delayed, and the menstrual flux to be substituted by prolonged and dangerous hæmorrhages, which have a fatal tendency.

Influence of the change of life.

In bad cases, where the cervix is long and narrow, as well as dense and undilatable, occurring in women who have never been pregnant, the prognosis is generally unfavorable. Indeed, the texture, consistency and other physical characters of the neck of the

The condition of the cervix.

womb, have more to do than almost anything else with the possibility and probability of cure, whether by surgical or medical means. Other things equal, multiparæ are more likely to recover than nulliparæ.

Various forms of degeneration.

While the fatty, calcareous, cartilaginous, and even the osseous degenerations which these fibroids sometimes undergo, are to be considered as salutary in their tendencies, other varieties of textural change may imply increased danger. Suppuration, sloughing, œdema, and interstitial hæmorrhage are critical processes that will cause you the greatest anxiety, and which you will learn are beset with extreme peril. The spontaneous enucleation of the tumor is altogether favorable. An evident inclination in the fibroid to develop in the direction of the uterine cavity, and especially to become pedunculated, is not of necessity a bad sign, for it may facilitate its removal by surgical means, or otherwise.

When complicated with other diseases, the danger varies with the grade and character of the contingent disorder. In women of a hæmorrhagic diathesis the chances of recovery are not the most promising.

Curable in their incipiency.

Treatment. — I am aware that there is a sort of histological difference between a simple hypertrophy of the uterine wall and an interstitial fibroid ensconced in its capsule. But this difference is more apparent than real. The early clinical history of these fibroids is so closely related and allied to those changes which take place within the same tissues during utero-gestation, and their post-partum involution, as to convey a therapeutical hint which promises to be of especial service. And I am persuaded, as the result of experience, that, in their early stages, these tumors are often curable by the use of internal remedies conjoined with very simple local means.

It is therefore a most fortunate circumstance that these parietal fibroids are more likely to be recognized, and to come under our care at an earlier period of their existence than either of the other varieties of this affection. It is for this as well as for diagnostic reasons, that I have chosen to treat of them separately.

Manifestly, the first duty of the practitioner is, if possible, to

prevent their recurrence. This may sometimes be accomplished through the adoption of means that are calculated to ensure the complete and uniform involution of the uterus after delivery; the free and ready exit of the menstrual flow; to prevent such habitual or permanent deviations of the womb, particularly retroversion and retroflexion, as would result in its disproportionate development; the prevention of abortion, and its consequent arrest of the organic changes proper to pregnancy; the interdiction of intemperate and fraudulent intercourse; and of the wearing of pessaries, stays, abdominal supporters, and of whatever might interfere with a free and uninterrupted distribution of blood through the pelvic and abdominal viscera. This preventive treatment is very important.

Prophylaxis.

And so likewise is the medicinal treatment. The hæmorrhage and the serous discharges, as well as the symptoms which are attendant upon the local inflammation and the menstrual disorder, afford a series of definite indications for our remedies. We make requisition upon the materia medica for secale cornutum, sabina, sepia, belladonna, lachesis, crocus, calcarea carb., staphisagria, arsenicum alb., silicea, phosphorus, lycopodium, china, thuja, carbo vegetabilis, sulphur, or nitric acid. One of these is given upon specific indications — which should be as definite and accurate as possible — and its use is persisted in until the symptoms for which it was prescribed have disappeared. Then another may be chosen.

Medicinal treatment.

I could detail a number of cases in which the careful and persistent employment of belladonna has removed a limited hypertrophy of the womb which, but for it, would undoubtedly have developed into a fibroid. It was given in the third decimal attenuation.

Belladonna.

Lachesis is equally efficacious in certain cases. It seems possessed of remarkable virtues as a resolvent, particularly where there is a defective involution of the womb. I am not aware that any author has mentioned this fact, and you will therefore take my individual estimate of its value for no more than it is worth. No class of facts needs such abundant confirmation as those which are clinical. In my hands the best effects have been derived from lachesis in the sixth and the twelfth attenuations.

Lachesis.

In claiming that these tumors are curable in their incipiency by means that are so mild and available, I do not forget that there are many sources of fallacy which might lead to a wrong inference respecting the efficacy of this or any other plan of treatment. It is not unusual for these growths to increase or to decrease in size very rapidly, and sometimes to disappear spontaneously. A retrograde metamorphosis may take them out of the way. The climacteric may arrest their development; and other changes may cut off their nutrition and cause them to wither. These cures by limitation are often placed to the credit of such agencies as animal magnetism, spiritualism, electricity, and other imponderables, and even of medical treatment. But, making due allowance for all these exceptional cases, I apprehend, it remains that very great good of a positive kind may be done by means of fitly-chosen internal remedies.

Sources of fallacy.

Together with these remedies, as already indicated, I am in the habit of employing the cotton tampon saturated with pure glycerine, or with glycerine containing a few drops of the strong tincture of calendula, of hamamelis, hydrastis, or of the same medicine that is being taken internally. This is an excellent adjuvant to the cure, and has the effect in many cases to avert the recurrence of frequent and dangerous hæmorrhages.

Local means.

The surgical treatment contemplates the removal of the tumor either by excision or enucleation. Excision by the ligature or the écraseur, not being available in non-pedunculated growths, as a rule, and these fibroids being interstitial, the main dependence is upon some form of enucleation. This operation consists in making one or more free incisions into the tumor and through its capsule, from the interior surface of the uterus. The fibroid is then turned out of its bed and, if possible, detached and removed at once. In many cases it is only partially separated, and then allowed to slough away, care being taken meanwhile to avoid pyæmia and similar contingencies by frequent injections of carbolized or calendulated water, and appropriate internal medication.

Surgical treatment.

Enucleation.

Although the risks of this expedient are sometimes very great,

still it is growing in favor. It is sometimes resorted to for the removal of the sub-mucous fibroids also, particularly in case of such of them as are attached to the uterus by a broad base.

Dr. Atlee's operation is a modification of this. And so also is Dr. I. Baker Brown's plan of coring or "gouging" out a piece from the middle of the tumor and filling the cavity with lint that had been dipped in olive oil. The idea in both of these operations is to impair its nutrition, and to facilitate the sloughing and separation of the adventitious growth.

Drs. Atlee's and Brown's operations.

In some of these cases there is such an exceptional intolerance of artificial dilatation of the cervix uteri, both on account of the hæmorrhage that may follow, and of directly fatal results, that the greatest possible care is requisite in the preparation of the patient for the removal of the tumor. Dr. Thomas reports two cases of sudden death from the use of the sponge-tent preparatory to enucleation, and sums up the dangers of this whole operation in the following forcible language: "If the cervical canal be well dilated, and the uterus susceptible of depression to the ostium vaginæ, or the vagina be so dilatable as to admit the hand, the case should be regarded as favorable to the procedure. If the opposite state of affairs exists, the case is not only an unfavorable one, but the procedure will in all probability fail. The prospect of success is, for these reasons, much better in multiparous than in nulliparous women."*

Danger in dilatation.

TRILLIN IN MENORRHAGIA FROM UTERINE FIBROIDS.

Case.—Mrs. ——, aged thirty-three years, a nullipara, has had menorrhagia sometimes to a very alarming extent, for eight years past. After having lifted and nursed a very sick sister she first observed a tumor in the lower part of the abdomen eight years ago. This tumor grew slowly, was not sensitive, was larger at the month than directly after the flow, and finally caused symptoms of prolapse of the womb when she was on her feet. When she first came to the Clinic she was very weak from the loss of blood, from an impaired digestion, improper nutrition, and from a depressed mental condition. At one time in the early history of the case, and without any apparent cause the menses were suppressed for nearly a year. She took the third decimal trituration

* The American Journal of Obstetrics and the Diseases of Women and Children. 1872. Vol. V, page 108.

of trillin with the effect to dispose of the menorrhagia, to remove all of the symptoms that were dependent upon it, and to check the growth of the tumor. Two years have now passed since she began the use of this remedy, and thus far there has been no occasion to resort to any other for the relief of the hæmorrhage. Meanwhile, however, the growth of the neoplasm has extended to the neck of the womb, and so involved its posterior portion as to preclude the possibility of extirpating the growth without also removing the entire cervix.

This remedy seems to be especially adapted to the menorrhagia and metrorrhagia which are almost always present in cases of interstitial and intra-uterine fibroids. For like secale it is of little effect in uterine hæmorrhage unless from pregnancy or otherwise the muscular fibers of the womb have been very decidedly developed. Incidentally, in a bad case for which I recommended it to my old friend Dr. W. C. Barker, of Waukegan, it not only controlled the alarming hæmorrhage but it also relieved a severe neuralgia, and put an end to a tedious and harrassing cough that had worried and weakened the patient almost as much as the loss of blood.

UTERINE POLYPI.

Case.—Mrs. X., 39 years old, came to the Clinic a fortnight ago for the relief of pelvic pain and distress which she attributed to menstrual retention of three months standing. She had always been regular before, and felt confident that she could not be pregnant now. She also complained of a full pressing headache which was worse at the monthly cycle, although the flow did not appear. She had taken various remedies to force the flow but without the least effect.

An examination of the os uteri in the field of the speculum showed that it was plugged with a polypus, which was examined by the class, and then carefully twisted off in their presence by the use of a Sims' polypus forceps.

The next week she reported that the monthly flow followed directly after the removal of the growth; that it was normal in quantity, quality, and duration; and that with its advent all of her pelvic distress and headache had disappeared.

Mucous polypi.

This was a small mucous polypus that was attached, as most of them are, within the canal of the cervix, about the internal os uteri. From being very vascular, these mucous growths are sometimes styled sanguineous;

and, when they do not obstruct the cervix, are likely to be the source of severe hæmorrhage. This indeed is a frequent cause of intractable menorrhagia. In rare cases these mucous polypi may be formed within the uterine cavity, as well as in the canal of the cervix, where they sometimes exist in considerable numbers. (Fig. 208).

FIG 208. Multiple mucous polypi. (Beigel).

It is well to remember that, whether single or multiple, these polypi may not only give rise to copious hæmorrhage at the month, but that they may and do sometimes cause the most intractable form of uterine leucorrhœa. So that, as in the case which you have just seen, a polypus may cause a menstrual suppression, or it may produce either menorrhagia, metrorrhagia, or a leucorrhœa. This is true of each and all the varieties of uterine polypi, whether they are mucous, cellular, glandular, or fibrous in their character.

Common characteristics of uterine polypi.

When these bodies are accessible to the touch, and can be brought into the field of the speculum, their diagnosis is not difficult. But when they lie above the internal os, before the cervix has been developed by their presence or pressure, we need to explore for them, and to dilate the neck of the womb so that we may find them. For this purpose we begin with a sponge-tent, or a Nott's dilator

Diagnosis.

(Fig. 22), or Atlee's dilator (Fig. 24), and, if necessary, follow it up with the careful use of Hunter's uterine dilator (Fig. 62), until the finger, or the probe, or both can be readily used for

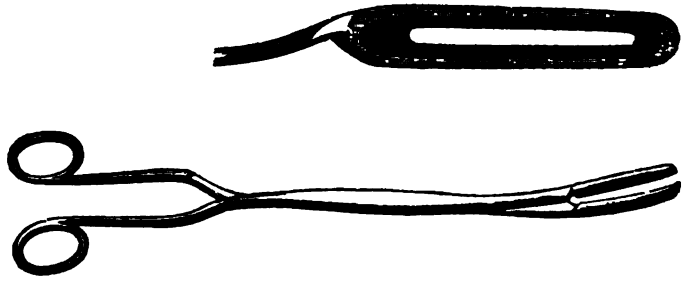


FIG. 209. Crushing forceps for uterine polypi.

the detection, location and measurement of the moroid growth. It is a fortunate circumstance that the careful use of these means of dilatation causes the uterus to descend, without really dragging it down, and to be more readily accessible.

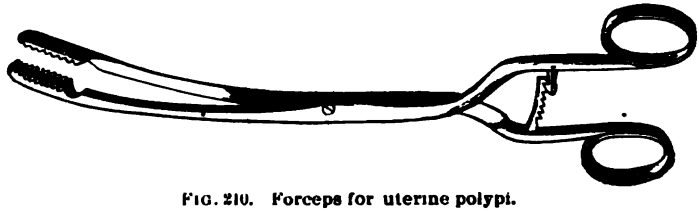


FIG. 210. Forceps for uterine polypi.

Treatment.

When the growth is reached the question of its removal may be decided upon. If it is not very large or fibrous, it may be twisted with a pair of Sims' polypus forceps, or even with Pean's artery forceps (Fig. 48). Other varieties of polypus forceps are here upon the table (Figs. 209, 210, 211, 212).

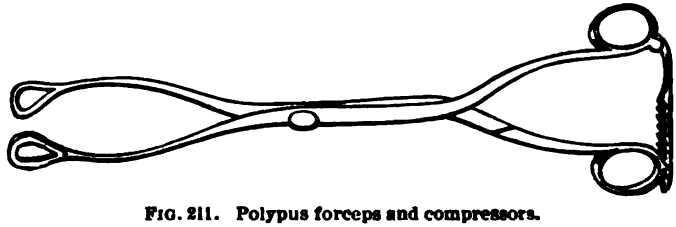


FIG. 211. Polypus forceps and compressors.

These instruments act by cutting off the vitality of the growth, and facilitating its removal without pain or hæmorrhage. But if the polypus is too firm in its texture to be taken in this way,

it may be drawn down with a volsellum, and snared with a wire through Gooch's old canula (Fig. 212), or by means of a wire ecraseur, of which the curved ones are the best. (Fig. 213).

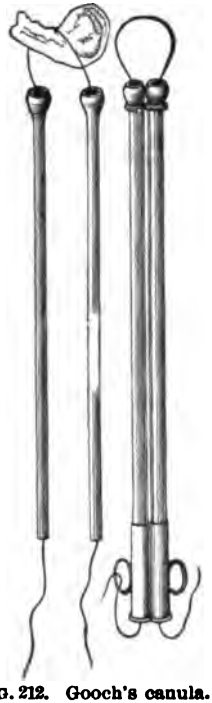


FIG. 212. Gooch's canula.

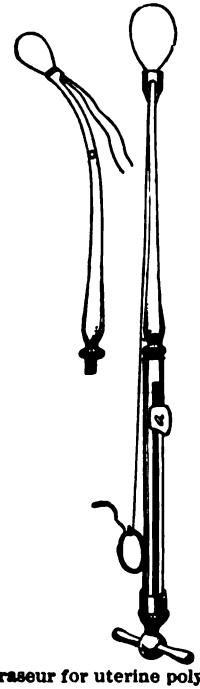


FIG. 213. Wire écraseur for uterine polypi.

If the peduncle, or stem of the polypus is narrow and slender, no matter if it is fibrous in its character, Aveling's polyptome is strong enough for its excision (Fig. 214.) An excellent modifi-

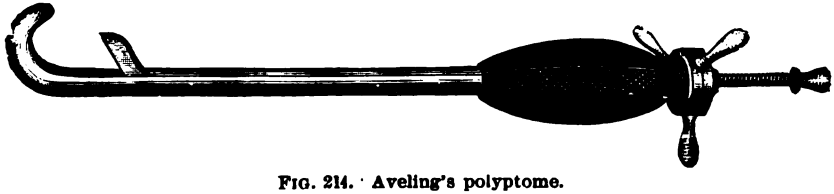


FIG. 214. Aveling's polyptome.

cation of this instrument by Dr. Hodge, of Philadelphia, has already been used in my clinic. (Fig. 28.)

When uterine polypi are large and their texture is condensed, they may grow slowly, may be accompanied by menorrhagia, the development of the uterus as in pregnancy, and by the occur-

rence of uterine contractions that resemble labor, or a threatened miscarriage. In rare cases these growths develop rapidly and give rise to copious periodical discharges of a watery fluid, which sometimes causes them to be mistaken for cancer. Under these circumstances it is safe to suspect that the tumor is of the recurrent, or sarcomatous variety, and our prognosis should be carefully guarded.

Recurrent fibrous polypi.

In this connection I must remind you of what I have already said of the failure of the microscope in deciding upon the real nature of some of these suspicious growths. (See page 715). The signs that are to be derived from careful clinical observation in these cases are really worth more than the report of the best microscopist in the world. It is best to say that the exact nature of these neoplasms is not absolutely known; that time is a necessary element in the prognosis; that heredity has its influence; and that, after their removal, it is best to wait and see whether they will come again before you decide whether they are malignant or not.

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